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L.V. v.c.

THE NEEDS

OF

UNIVERSITY COLLEGE, LONDON:

WITH SOME ACCOUNT OF THE PREVIOUS HISTORY OF THE COLLEGE
AND THE PART IT HAS ALREADY PLAYED IN THE INCREASE OF KNOWLEDGE;

BEING

*An Appeal for the Endowment of advanced University
Education and Research in London.*

1902

ROYAL COLLEGE OF PHYSICIANS	
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SPECIAL APPEAL COMMITTEE.

INCOMPLETE LIST.

- HIS GRACE THE DUKE OF DEVONSHIRE, K.G.,
 P.C., D.C.L., LL.D.
 HIS GRACE THE DUKE OF BUCCLEUCH, K.G.,
 K.T.
 THE RT. HON. THE EARL OF DERBY, P.C., K.G.,
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 THE LORD EDMOND FITZMAURICE, M.P.
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 THE RT. HON. LORD ROWTON, P.C., K.C.V.O., C.B.
 THE RT. HON. LORD TWEEDMOUTH, P.C.
 THE RT. HON. LORD MONKSWELL, LL.B.
 THE RT. HON. LORD BRASSEY, K.C.B., D.C.L.
 THE RT. HON. LORD BATTERSEA.
 THE RT. HON. LORD WANDSWORTH.
 THE RT. HON. LORD BURGHCLERE, P.C., M.A.
 THE RT. HON. LORD AVEBURY, P.C., D.C.L., LL.D.
 THE RT. HON. SIR EDWARD CARSON, LL.D.,
 K.C., M.P.
 THE RT. HON. THE LORD MAYOR OF LONDON.
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 SIR JOHN WILLIAMS, BART., M.D., LL.D.
 SIR J. BLUNDELL MAPLE, BART., M.P.
 SIR MICHAEL FOSTER, K.C.B., LL.D., D.C.L., M.P.
 SIR JOHN T. BRUNNER, M.P., J.P.
 SIR RICHARD FARRANT.
 SIR JOHN ROTTON, K.C., M.A., LL.B.
 SIR R. JEBB, M.P., LL.D., D.C.L.
 THE REV. H. ADLER, D.D., LL.D., PH.D.
 W. ASHBURNER, Esq., M.A.
 WALTER BAILY, Esq., M.A.
 H. R. BEETON, Esq.
 J. BOURNE BENSON, Esq., LL.D.
 PROFESSOR J. R. BRADFORD, M.D., F.R.S.
 PROFESSOR H. L. CALLENDAR, M.A., LL.D., F.R.S.
 MICHAEL CARTEIGHE, Esq., F.C.S.
 B. L. COHEN, Esq., M.P.
 COLONEL WOLSELEY COX.
 CLINTON E. DAWKINS, Esq., C.B.
 JAMES ECCLES, Esq., J.P.
 TALFOURD ELY, Esq., M.A.
 J. P. FITZPATRICK, Esq.
 PROFESSOR J. A. FLEMING, M.A., D.Sc., F.R.S.
 PRINCIPAL G. CAREY FOSTER, LL.D., F.R.S.
 PROFESSOR H. S. FOXWELL, M.A.
 PROFESSOR E. A. GARDNER, M.A.
 PROFESSOR R. J. GODLEE, M.S.
 O. D'AVIGDOR GOLDSMID, Esq.
 PROFESSOR CHARLES GRAHAM, D.Sc.
 H. R. GRAHAM, Esq., M.P.
 W. H. GRENFELL, Esq., M.P.
 PROFESSOR VAUGHAN HARLEY, M.D.
 ALFRED HOARE, Esq.
 SIR W. H. HOULDSWORTH, BART., M.P., J.P.
 PROFESSOR A. E. HOUSMAN, M.A.
 CAPTAIN H. M. JESSEL, M.P.
 ALEX. B. W. KENNEDY, Esq.
 PROFESSOR W. P. KER, M.A., LL.D.
 J. LARMOR, Esq., M.A., D.Sc., F.R.S.
 JOSEPH LAWRENCE, Esq., M.P., Ex-Sheriff of
 London.
 T. LOUGH, Esq., M.P.
 HENRY LUCAS, Esq.
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 C. G. MONTEFIORE, Esq.
 PROFESSOR F. W. OLIVER, M.A., D.Sc.
 J. LEWIS PATON, Esq., M.A.
 R. PENNINGTON, Esq.
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 PROFESSOR J. ARTHUR PLATT, M.A.
 AUGUSTUS PREVOST, Esq.
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 W. ARTHUR SHARPE, Esq.
 PROFESSOR H. R. SPENCER, M.D.
 PROFESSOR E. H. STARLING, M.D., F.R.S.
 J. W. SWAN, Esq., F.R.S.
 PROFESSOR G. D. THANE.
 EDWIN WATERHOUSE, Esq.
 T. MCKINNON WOOD, Esq., LL.D.
 THE REV. S. A. THOMPSON YATES.

FIRST LIST OF SUBSCRIPTIONS.

The First List of Subscriptions will be announced at the meeting at
the Mansion House on May 9th, 1902.

OFFICERS OF THE COLLEGE.

PRESIDENT.—THE RT. HON. LORD REAY, G.C.S.I., LL.D.

VICE-PRESIDENT.—THE RT. HON. LORD MONKSWELL.

TREASURER.—*SIR RICHARD FARRANT.

COUNCIL.

THE PRESIDENT. THE VICE-PRESIDENT. THE TREASURER.

*WALTER ASHBURNER, M.A.†

*WALTER BAILY, M.A.

H. R. BEETON, Esq.

*J. BOURNE BENSON, LL.D.†

*Professor J. R. BRADFORD, M.D., F.R.S.

MICHAEL CARTEIGHE, F.C.S.

*G. CAREY FOSTER, LL.D., F.R.S.†

LORD EDMOND FITZMAURICE, M.P.

*Professor A. E. HOUSMAN, M.A.

HENRY LUCAS.

SIR JOHN BLUNDELL MAPLE, Bart., M.P.

C. G. MONTEFIORE, Esq.

*Professor F. W. OLIVER, D.Sc.

Professor J. A. PLATT, M.A.

*SIR JOHN ROTTON, M.A., LL.B., K.C.

*W. ARTHUR SHARPE.

Professor H. R. SPENCER, M.D., F.R.C.P.

Professor E. H. STARLING, M.D., F.R.S.

*J. W. SWAN, F.R.S.

SIR JOHN WILLIAMS, Bart., M.D.†

RICHARD WORSLEY.

AUDITORS.

JOHN HENNEL, B.A.

H. FORSTER MORLEY, D.Sc.

EDWIN WATERHOUSE, B.A., F.C.A. (*Professional*).

Principal.—G. CAREY FOSTER, LL.D., F.R.S.

Lady Superintendent }
of Women Students } MISS ROSA MORISON.

Secretary.—T. GREGORY FOSTER, PH.D.†

* Member of the Committee of Management.

† Fellow of the College.

SENATE.

President.—G. CAREY FOSTER, LL.D., F.R.S.*

Vice-Presidents.—J. W. SWAN, F.R.S.

THE RT. HON. LORD MONKSWELL.

	Appointed.
A. E. BARKER, F.R.C.S.†	1892
SIR THOMAS BARLOW, Bart., M.D.	1896
CECIL BENDALL, M.A.	1885
J. F. BLUMHARDT, M.A.... ..	1896
J. R. BRADFORD, M.D., F.R.S.*	1895
LOUIS M. BRANDIN, M.A., Ph.D.	1901
FREDK. BROWN †	1892
A. J. BUTLER, M.A.	1898
OSBERT CHADWICK, M.Inst.C.E., M.Inst.M.E., C.M.G. .	1898
W. H. CORFIELD, M.A., M.D.†	1869
J. D. CORMACK, B.Sc., M.Inst.E.E.	1901
T. W. RHYS DAVIDS, LL.D., Ph.D.†	1882
J. A. FLEMING, M.A., D.Sc., F.R.S.*	1885
H. S. FOXWELL, M.A.†	1881
E. A. GARDNER, M.A.†	1896
E. J. GARWOOD, M.A.	1901
R. J. GODLEE, M.B., M.S., F.R.C.S.*	1893
VAUGHAN HARLEY, M.D., M.R.C.P.	1896
M. J. M. HILL, M.A., D.Sc., F.R.S.*	1884
V. A. H. HORSLEY, M.B., B.S., F.R.S.*	1900
A. E. HOUSMAN, M.A.†	1892
W. P. KER, M.A., LL.D.†	1892
JOHN MACDONELL, M.A., LL.D., C.B.	1901
SIDNEY MARTIN, M.D., F.R.S.*	1896

* Fellow of the College.

† Life Governor of the College.

SENATE (*continued*).

	Appointed.
F. A. MINCHIN, M.A.	1899
F. C. MONTAGUE, M.A.*	1893
A. F. MURISON, M.A., LL.D.†	1883
J. W. NEILL †	1896
R. ALLEYNE NICHOLSON, M.A.	1901
F. W. OLIVER, M.A., D.Sc.*	1890
J. LEWIS PATON, M.A.	1898
KARL PEARSON, M.A., LL.B., F.R.S.†	1884
W. M. FLINDERS PETRIE, D.C.L., LL.D.†	1892
J. ARTHUR PLATT, M.A.†	1894
G. VIVIAN POORE, M.D., B.S., F.R.C.P.*	1889
J. P. POSTGATE, M.A., Litt.D.	1880
R. PRIEB SCH, Ph.D.	1898
W. RAMSAY, LL.D., Ph.D., F.R.S.†	1887
F. T. ROBERTS, M.D., B.Sc.*	1880
J. RISIEN RUSSELL, M.D., F.R.C.P.	1900
S. SCHECHTER, M.A., Litt.D.	1898
T. ROGER SMITH, F.R.I.B.A.†	1881
H. R. SPENCER, M.D., F.R.C.P.†	1893
E. H. STARLING, M.D., F.R.C.P., F.R.S.	1899
S. A. STRONG, M.A.	1895
JAMES SULLY, M.A., LL.D.†	1892
G. D. THANE †	1877
F. T. TROUTON, M.A., F.R.S.	1902
JOHN TWEEDY, F.R.C.S.†	1881
L. F. VERNON-HARCOURT, M.A., M.Inst.C.E.†	1882
W. J. WHITTAKER, M.A., LL.B.	1901

* Fellow of the College.

† Life Governor of the College.

DEPARTMENTS AND STAFF.

[The Names of Members of the respective Faculties are printed in small capitals.]

FACULTY OF ARTS AND LAWS.

Dean.—Professor E. A. GARDNER.

Vice-Dean.—Professor R. PRIEBSCH.

<i>Subject.</i>	<i>Name.</i>	<i>Status.</i>
Applied Mathematics and Mechanics.	KARL PEARSON, M.A., LL.B., F.R.S.†	Professor.
	H. Payne, Assoc.M.Inst.M.E.	Assistant.
	E. Sprague, Assoc.M.Inst.C.E.	Assistant.
Arabic	S. A. STRONG, M.A.	Professor.
Archæology	E. A. GARDNER, M.A.†	Yates Professor.
Architecture	T. ROGER SMITH, F.R.I.B.A.†	Professor.
	W. Stirling	Assistant.
	E. G. Burr	Instructor in Measuring.
	A. Buchanan	Demonstrator.
Bengali	J. F. BLUMHARDT, M.A.	Lecturer.
Burmese	J. E. BRIDGES	Lecturer.
Comparative Law	J. MACDONELL, M.A., LL.D., C.B.	Quain Professor.
Comparative Philology . .	J. P. POSTGATE, M.A., Litt.D.	Professor.
Constitutional Law and History	W. J. WHITTAKER, M.A., LL.B.	Professor.
Egyptology	W. M. FLINDERS PETRIE, D.C.L., LL.D.†	Edwards Professor.
English	W. P. KER, M.A., LL.D.	Quain Professor.
	T. Gregory Foster, B.A., Ph.D.*	Assistant Professor.
	R. W. Chambers, B.A.*	Lecturer, Quain Student.
English Law	W. J. WHITTAKER, M.A., LL.B.	Professor.
Fine Arts	FREDK. BROWN †	Slade Professor.
	H. Tonks	Assistant Professor.
	W. Russell	Assistant.
	P. W. Steer	Assistant Teacher.
French	LOUIS M. BRANDIN, M.A., Ph.D.	Fielden Professor.
German	R. PRIEBSCH, Ph.D.	Fielden Professor.
Greek	J. ARTHUR PLATT, M.A.†	Professor.
Gujārati	S. A. KAPADIA, M.D.	Lecturer.
Hebrew	S. SCHECHTER, M.A., Litt.D.	Goldsmid Professor.

* Fellow of the College.

† Life Governor of the College.

DEPARTMENTS AND STAFF (*continued*).

<i>Subject.</i>	<i>Name.</i>	<i>Status.</i>
Hindi	J. F. BLUMHARDT, M.A.	{ Lecturer. Professor,
Hindustani		
History	F. C. MONTAGUE, M.A.*	Professor.
History, Ancient Indian.	Romesh C. Dutt, C.I.E.	Lecturer.
Indian Law	J. W. NEILL †	Professor.
Italian	A. J. BUTLER, M.A.	Professor.
„ (Dante)	Rev. E. Moore, D.D.	Barlow Lecturer.
Jurisprudence	A. F. MURISON, M.A., LL.D.†	Professor.
Latin	A. E. HOUSMAN, M.A.†	Professor.
Marathi	J. W. NEILL †	Lecturer.
Mathematics	M. J. M. HILL, M.A., D.Sc., F.R.S.*	Professor.
	H. J. Harris, B.A.	Assistant.
Pali and Buddhist		
Literature	T. W. RHYS DAVIDS, LL.D., Ph.D.†	Professor.
Persian	R. ALLEYNE NICHOLSON, M.A.	Professor.
Philosophy of Mind and	J. SULLY, M.A., LL.D.†	Grote Professor.
Logic.	W. McDougall, M.A., M.B.	Assistant.
	F. Ryland, M.A.	Assistant.
	A. Wolf, M.A.	Assistant.
Political Economy	H. S. FOXWELL, M.A.†	Professor.
Roman Law	A. F. MURISON, M.A., LL.D.†	Professor.
Sanskrit	C. BENDALL, M.A.	Professor.
Tamil and Telugu	R. W. FRAZER, B.A., LL.B.	Lecturer.

FACULTY OF SCIENCE.

Dean.—Professor E. H. STARLING.

Vice-Dean.—Professor VAUGHAN HARLEY.

<i>Subject.</i>	<i>Name.</i>	<i>Status.</i>
Botany	F. W. OLIVER, M.A., D.Sc.*	Quain Professor.
	A. G. Tansley, M.A.*	Assistant Professor.
	W. C. Worsdell, F.L.S.	Assistant.
	Edith Chick, B.Sc.	Quain Student.
Chemistry	W. RAMSAY, LL.D., Ph.D., F.R.S.†	Professor.
	E. C. C. Baly, F.I.C.	Assistant Professor.
	F. G. Donnan, M.A., Ph.D.	Assistant Professor.
	Morris W. Travers, D.Sc.*	Assistant Professor.
Civil Engineering and	L. F. VERNON-HARCOURT, M.A., M.Inst.C.E.†	Professor.
Surveying.	M. T. Ormsby	Assistant for Surveying.
Electrical Engineering ..	J. A. FLEMING, M.A., D.Sc., F.R.S.*	Pender Professor.
	W. C. Clinton, B.Sc., A.M.Inst.E.E.	Demonstrator.

* Fellow of the College.

† Life Governor of the College.

DEPARTMENTS AND STAFF (*continued*).

<i>Subject.</i>	<i>Name.</i>	<i>Status.</i>
Geology and Mineralogy.	E. J. GARWOOD, M.A.	Yates-Goldsmid Professor.
Hygiene and Public Health.	W. H. CORFIELD, M.A., M.D.† H. R. Kenwood, M.D., D.P.H., F.C.S. C. Childs, M.A., M.D., D.P.H.	Chadwick Professor. Assistant Professor. Lecturer.
Mechanical Engineering .	J. D. CORMACK, B.Sc., M.Inst.E.E. E. M. Eden, Assoc.M.Inst.C.E. E. Sprague, Assoc.M.Inst.C.E. H. Payne, Assoc.M.Inst.C.E., Assoc.M.Inst.M.E.	Professor. Assistant. Assistant. Drawing-Office Assistant
Municipal Engineering .	OSBERT CHADWICK, M.Inst.C.E., M.Inst.M.E., C.M.G. R. Middleton, M.Inst.C.E. M. T. Ormsby.	Edwin Chadwick Professor. Lecturer. Assistant.
Pathological Chemistry .	VAUGHAN HARLEY, M.D., M.R.C.P. F. W. Goodbody, M.D., M.R.C.P.	Professor. Assistant Professor.
Pathology and Morbid Anatomy.	SIDNEY MARTIN, M.D., F.R.S.* D. N. Nabarro, M.D., B.Sc.*	Professor. Assistant.
Physics	F. T. TROUTON, M.A., F.R.S. A. W. Porter, B.Sc.*	Quain Professor. Assistant Professor.
Physiology	N. Eumorfopoulos, B.Sc.*	Demonstrator.
	E. H. STARLING, M.D., B.S., F.R.C.P., F.R.S. . W. A. Osborne, M.B., D.Sc. W. M. Bayliss, M.A., D.Sc.	Jodrell Professor. Sharpey Scholar. Assistant.
Zoology and Comparative Anatomy.	E. A. MINCHIN, M.A. E. Warren, D.Sc.*	Jodrell Professor Assistant Professor.
	H. M. Woodcock	Demonstrator.

[The Departments of Architecture, Egyptology, Mathematics, Applied Mathematics and Mechanics, Philosophy of Mind and Logic, and Political Economy belong also to this Faculty and the Professors are Members of this Faculty.]

FACULTY OF MEDICINE.

Dean.—Professor J. R. BRADFORD.

Vice-Dean.—Professor SIDNEY MARTIN.

Sub-Dean.—Professor G. D. THANE.

<i>Subject.</i>	<i>Name.</i>	<i>Status.</i>
Anæsthetics	D. W. Buxton, M.D., B.S., M.R.C.P.†	
Anatomy	G. D. THANE†	Professor.
	G. B. M. White, M.B., B.S., F.R.C.S.	Demonstrator.
	P. M. Heath, M.B.	Assistant Demonstrator.
	E. G. Perodeau	Assistant Demonstrator.

* Fellow of the College.

† Life Governor of the College.

DEPARTMENTS AND STAFF (*continued*).

<i>Subject.</i>	<i>Name.</i>	<i>Status.</i>
Clinical Dental Surgery .	SIDNEY SPOKES, M.R.C.S.	Lecturer.
Clinical Dermatology ..	H. RADCLIFFE CROCKER, M.D., F.R.C.P.	Physician.
Clinical Medicine	F. T. ROBERTS, M.D., B.Sc.*	Holme Professor.
	Sir T. BARLOW, Bart., M.D.†	Professor.
	J. R. BRADFORD, M.D., D.Sc., F.R.S.*	Professor.
	G. VIVIAN POORE, M.D., B.S., F.R.C.P.*	Professor.
	SIDNEY MARTIN, M.D., F.R.S.*	Physician.
	J. RISIEN RUSSELL, M.D., F.R.C.P.	Assistant Physician.
	H. BATTY SHAW, M.D., B.S., F.R.C.S.*	Assistant Physician.
Clinical Midwifery	H. R. SPENCER, M.D., F.R.C.P.†	Professor.
	G. F. BLACKER, M.D., B.S., F.R.C.S.*	Physician.
Clinical Ophthalmic Surgery.	JOHN TWEEDY, F.R.C.S.†	Professor.
	PERCY FLEMMING, M.D., B.S., F.R.C.S.*	Assistant Surgeon.
Clinical Surgery	R. J. GODLEE, M.B., M.S., F.R.C.S.*	Holme Professor.
	A. E. BARKER, F.R.C.S.†	Professor.
	VICTOR HORSLEY, M.B., B.S., F.R.S., F.R.C.S.	Professor.
	BILTON POLLARD, B.S., F.R.C.S.†	Assistant Professor.
	RAYMOND JOHNSON, M.B., B.S., F.R.C.S.	Assistant Professor.
	T. R. H. BUCKNALL, M.D., M.S., F.R.C.S.* ..	Assistant Surgeon.
Materia Medica and Therapeutics	J. R. BRADFORD, M.D., D.Sc., F.R.S.*	Professor.
Medical Jurisprudence ..	J. RISIEN RUSSELL, M.D., F.R.C.P.	Professor.
Medicine	G. VIVIAN POORE, M.D., B.S., F.R.C.P.*	Professor.
Mental Physiology	W. J. MICKLE, M.D., F.R.C.P.	Lecturer.
Midwifery	H. R. SPENCER, M.D., F.R.C.P.†	Professor.
Operative Surgery	BILTON POLLARD, B.S., F.R.C.S.†	Teacher.
Ophthalmic Medicine and Surgery	JOHN TWEEDY, F.R.C.S.†	Professor.
Practical Pharmacy	H. Wilson	Teacher.
Practical Surgery	T. R. H. BUCKNALL, M.D., M.S., F.R.C.S.* ..	Teacher.
Surgery	A. E. BARKER, F.R.C.S.	Professor.

[The Departments of Botany, Chemistry, Hygiene & Public Health, Pathology & Morbid Anatomy, Physics, Physiology, and Zoology & Comparative Anatomy belong also to this Faculty and the Professors are Members of the Faculty.]

* Fellow of the College.

† Life Governor of the College.

RETIRED PROFESSORS

WHO HOLD THE TITLE OF *EMERITUS PROFESSOR*.

SIR HENRY THOMPSON, Bart., M.B.	Clinical Surgery	1875
A. W. WILLIAMSON, Ph.D., LL.D., F.R.S. ..	Chemistry	1887
DANIEL OLIVER, F.R.S.	Botany	1888
CHARLES GRAHAM, D.Sc.	Chemical Technology	1889
A. B. W. KENNEDY, F.R.S.	Mechanical Engineering	1889
E. S. BEESLY, M.A.	History	1893
SIR JOHN WILLIAMS, Bart., M.D.	Obstetric Medicine	1893
ALEXANDER HENRY, LL.D.	Jurisprudence	1896
H. CHARLTON BASTIAN, M.A., M.D., F.R.S. ...	Clinical Medicine	1898
G. CAREY FOSTER, B.A., F.R.S.	Physics	1898
SYDNEY RINGER, M.D., F.R.S.	Clinical Medicine	1900
CHRISTOPHER HEATH, F.R.C.S.	Clinical Surgery	1900

NOTE ON THE PLANS.

THE Plans of the completed College which here follow are intended to facilitate the understanding of the proposed changes and extensions mentioned in the text of the accompanying Appeal and to show how the proposals can be carried out within the available space. They are subject to revision if and when the Council may be in possession of the requisite funds.

EXPLANATION.

The lettering in the Plans in *thin* letters, usually inside the outline of the part of the building to which it refers, indicates the present use of that part.

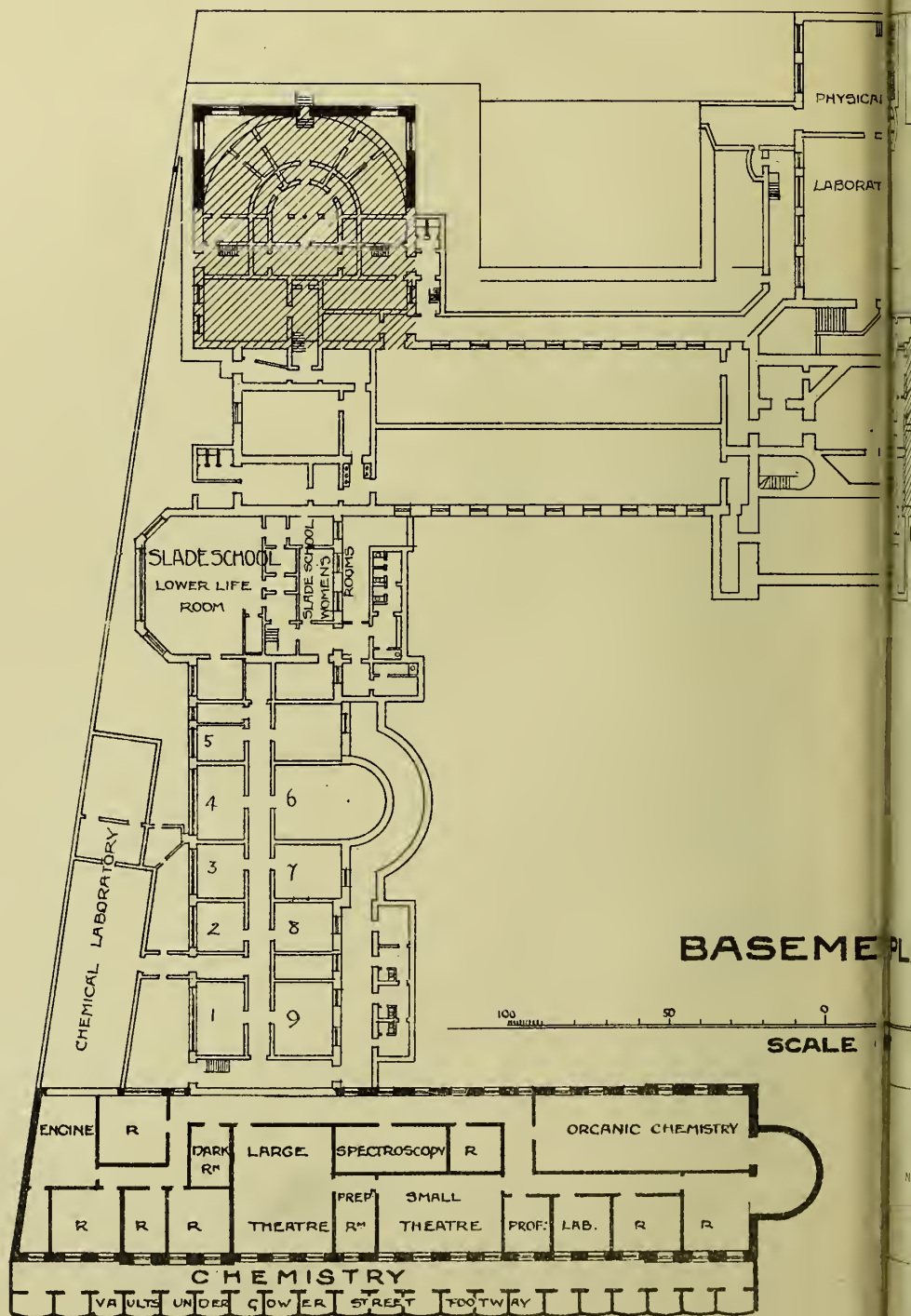
The lettering in *thick* letters, placed outside the outlines, shows the intended future use.

The Portions shown with walls in outline will not be altered.

The Portions that are hatched are existing buildings it is proposed to remodel.

The Portions shown with walls blacked are new buildings.

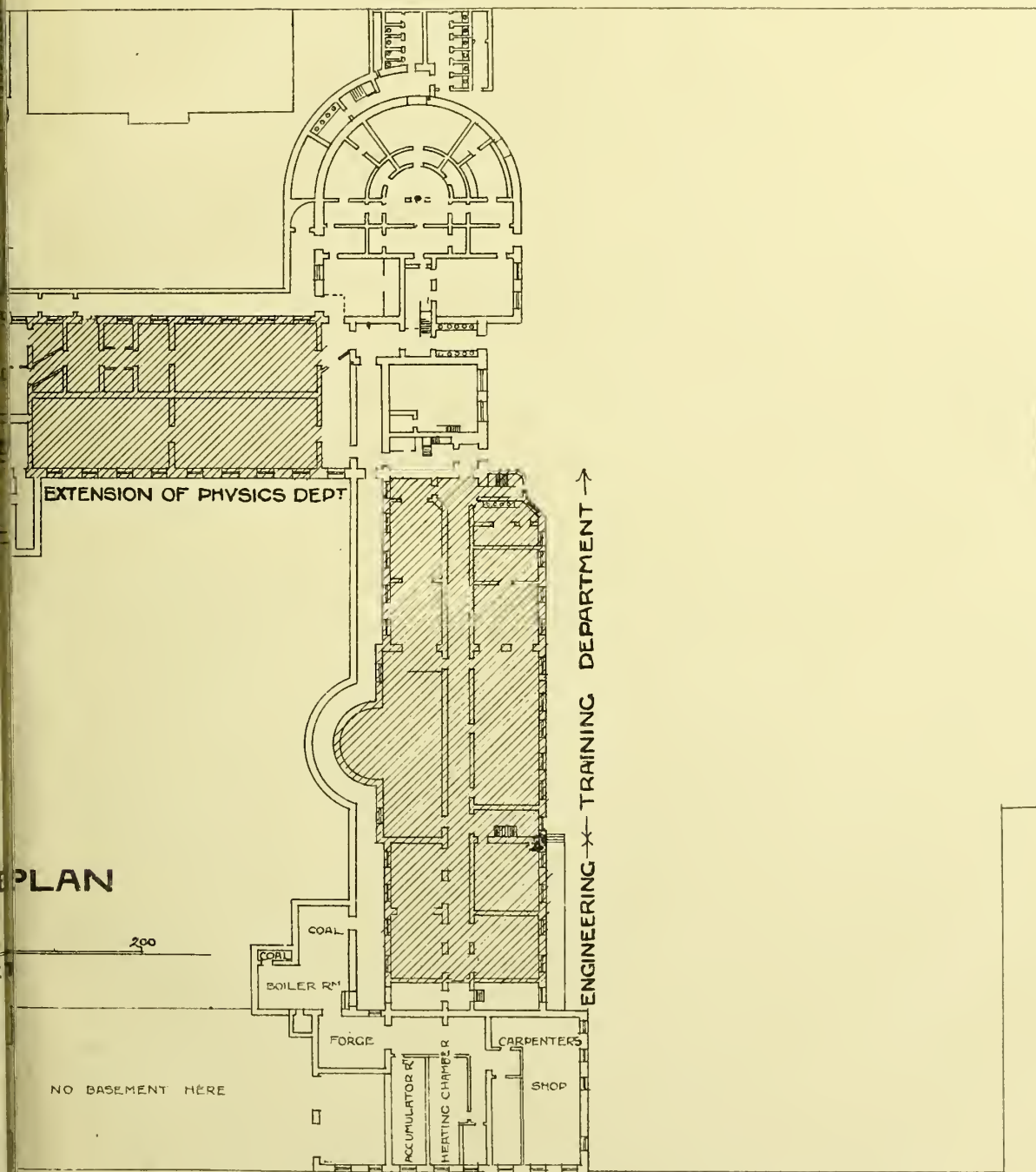
UNIVERSITY COLLEGE PROPOSED ALTERATIONS



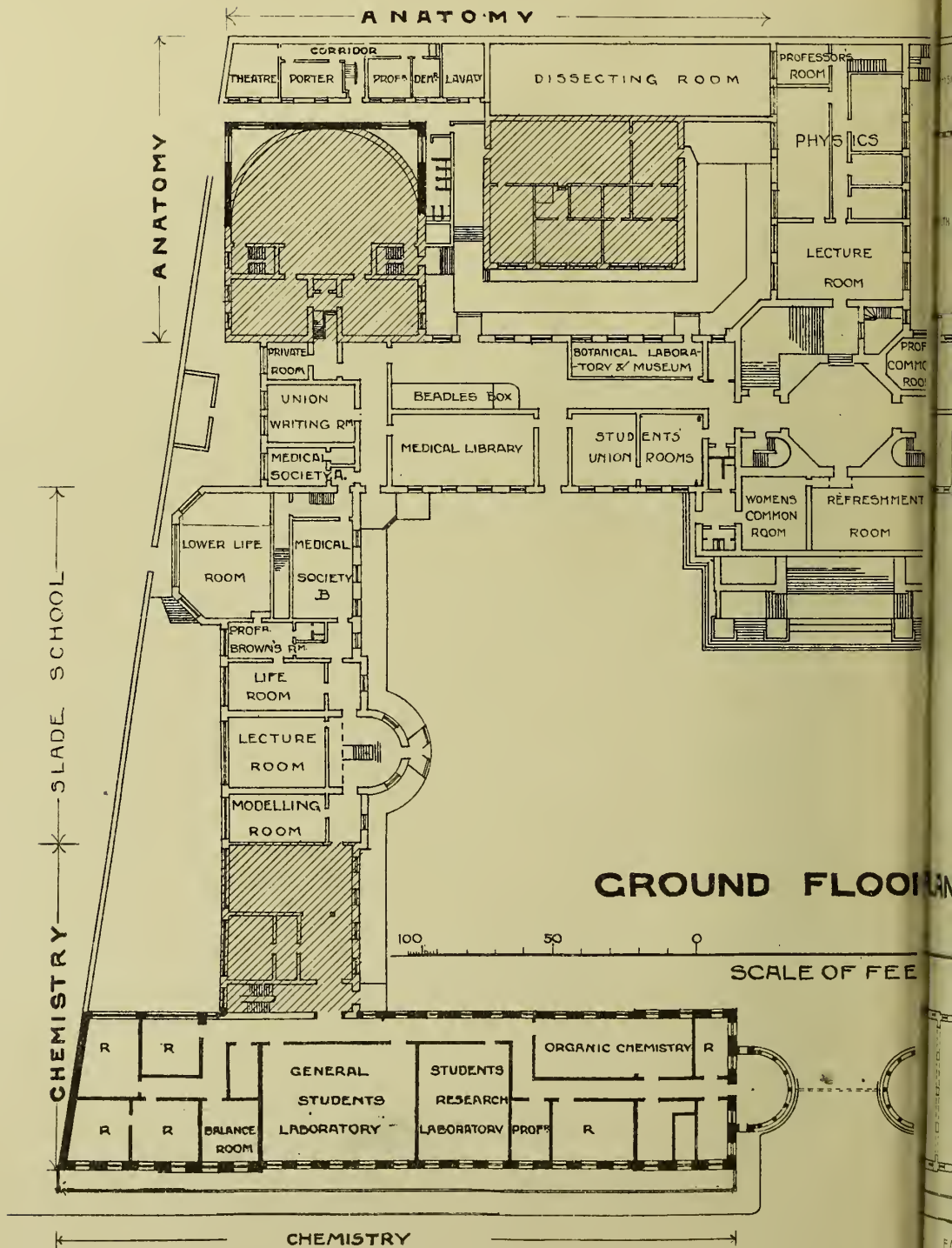
LONDON & ADDITIONS

DRAWING N°1

SEE EXPLANATORY NOTE PAGE XII



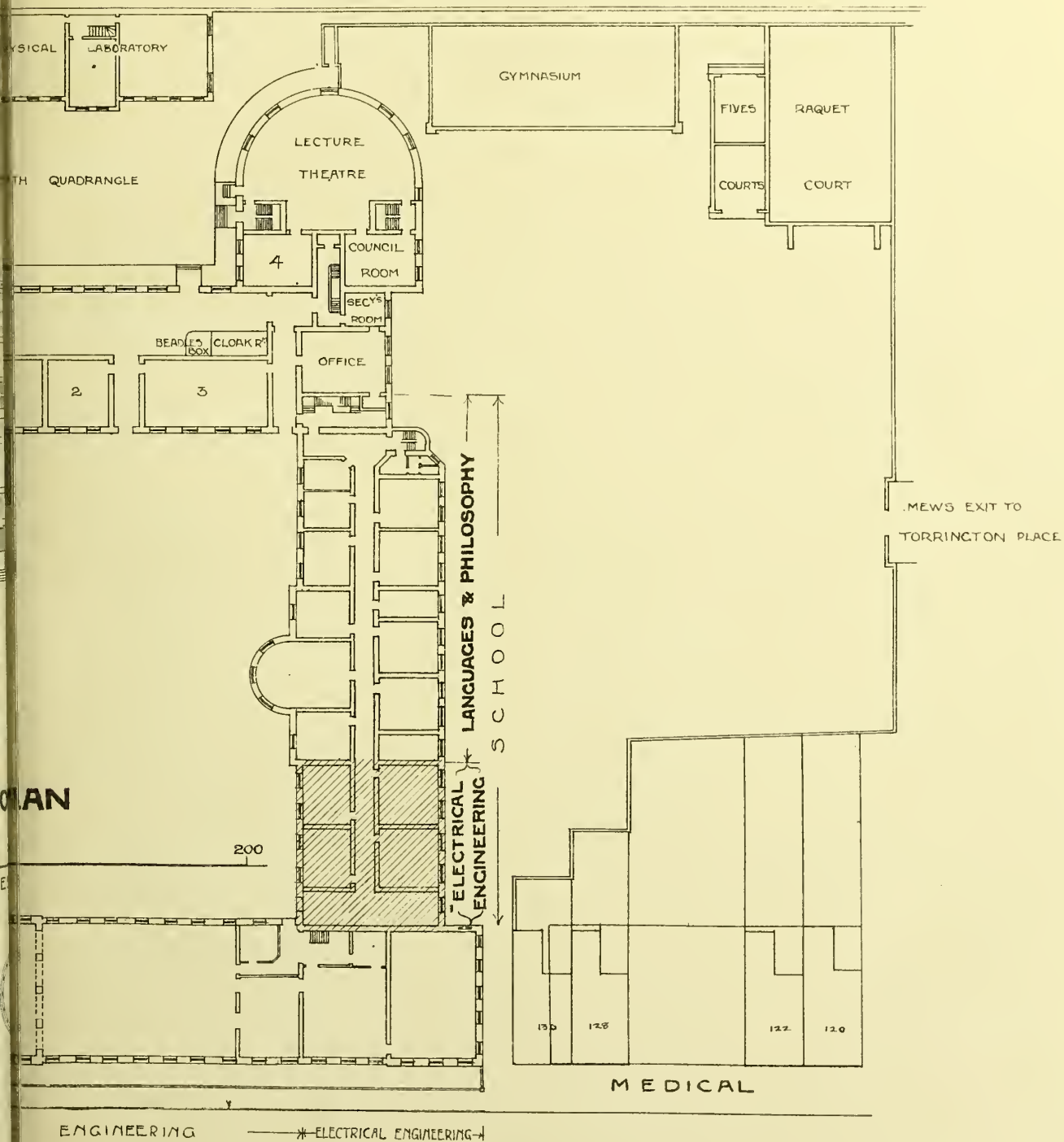
UNIVERSITY COLLEGE LONDON PROPOSED ALTERATIONS



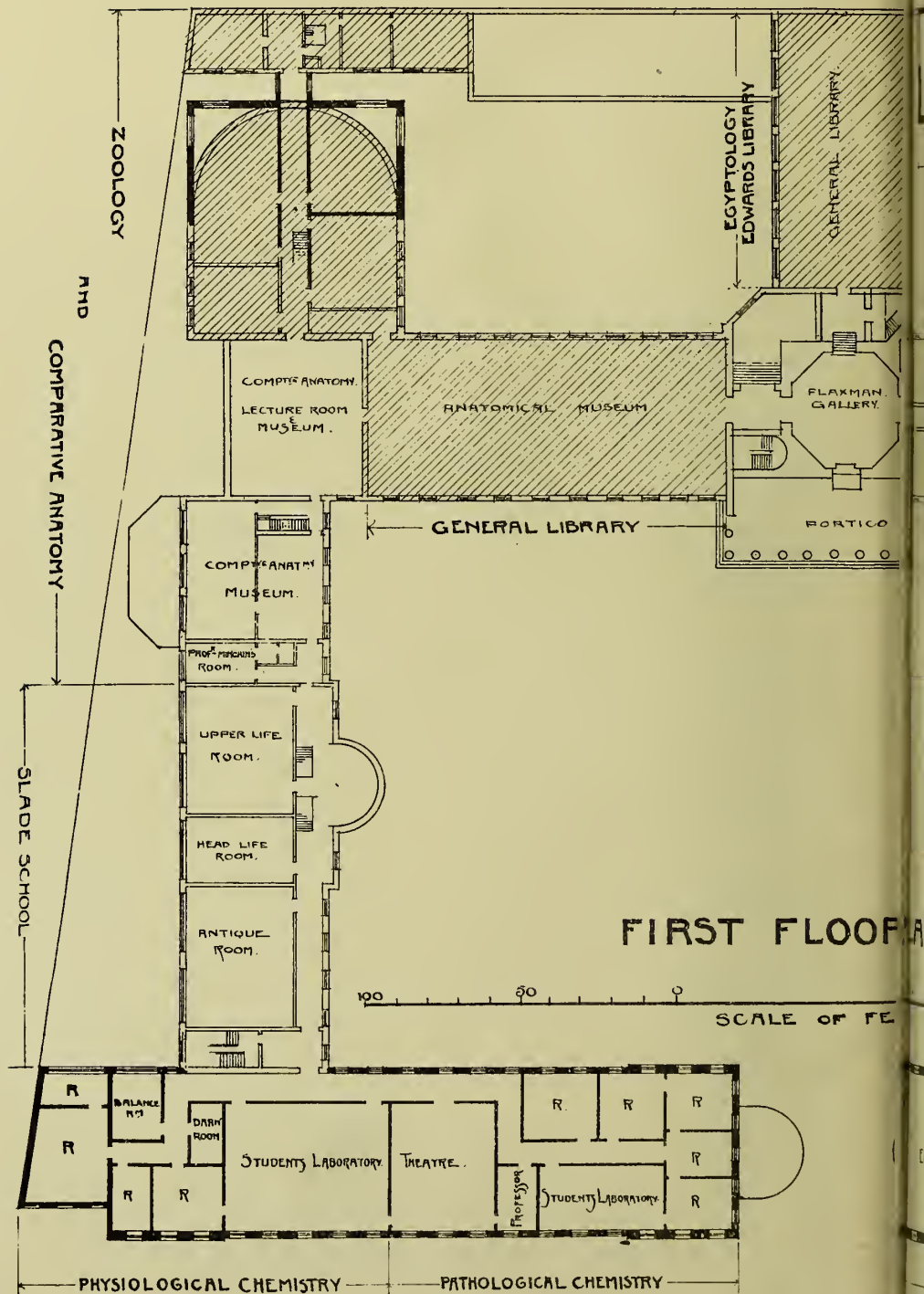
ADDON ADDITIONS

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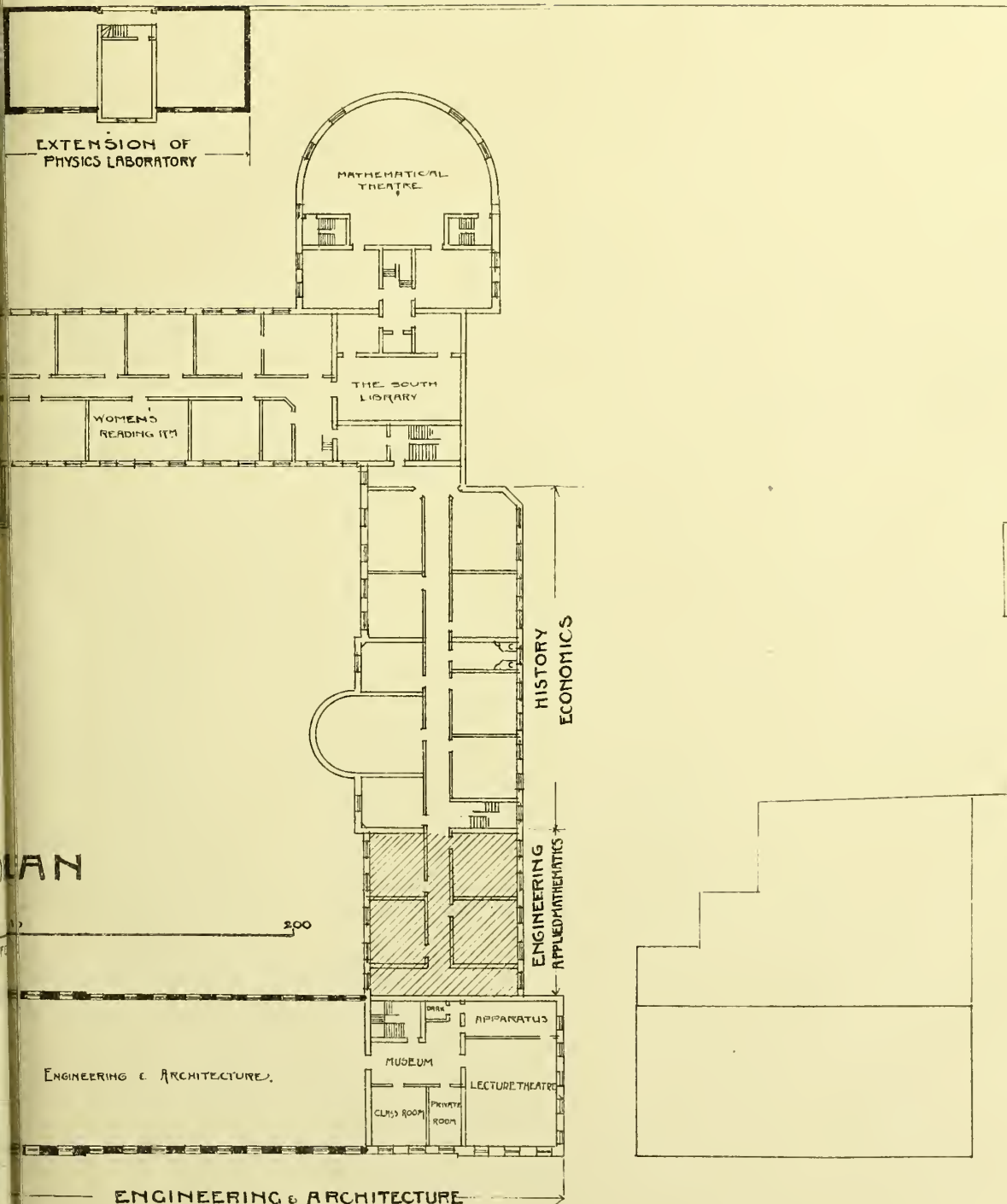
UNIVERSITY COLLEGE LONDON PROPOSED ALTERATIONS & ADDITIONS



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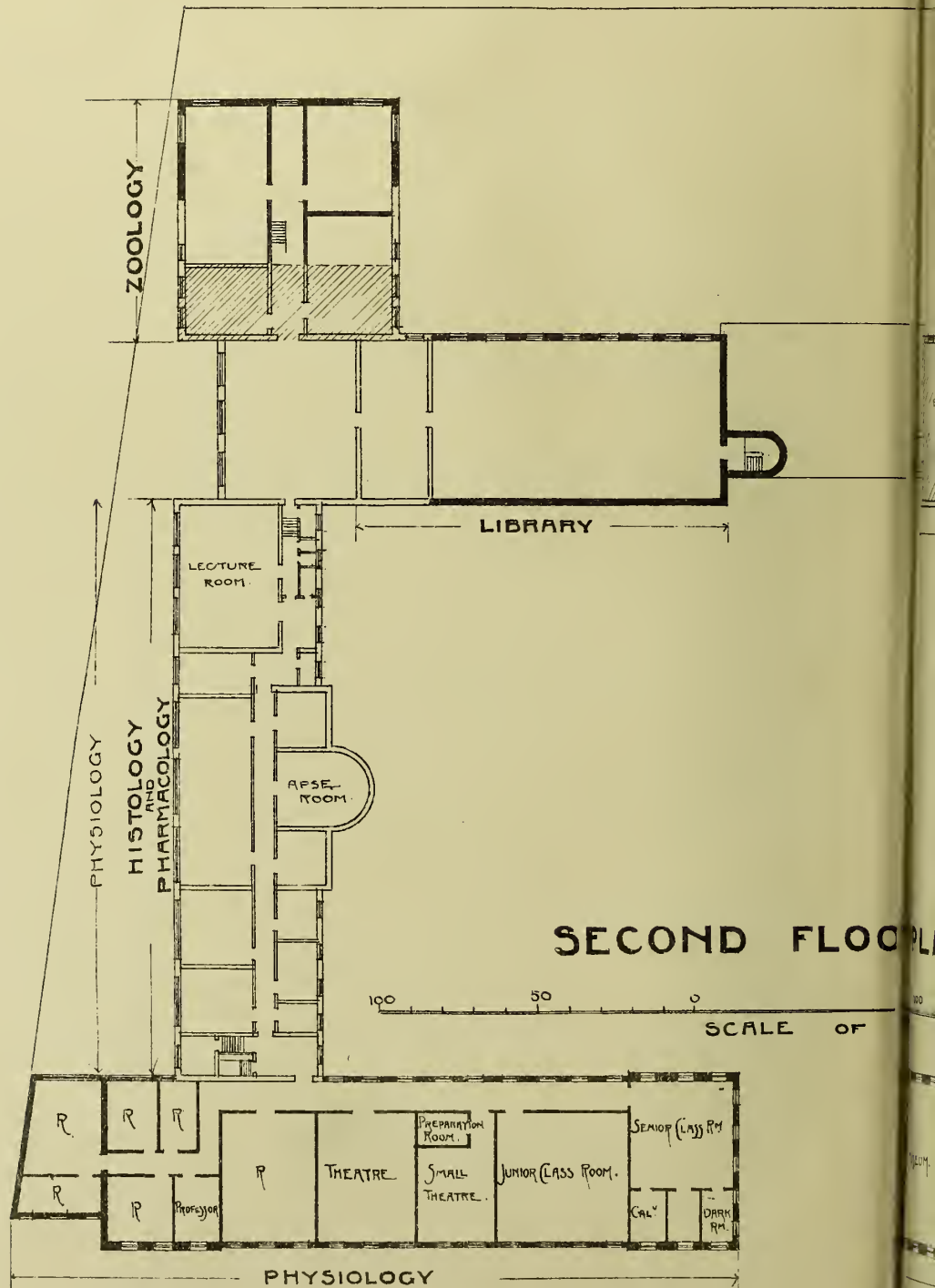
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UNIVERSITY COLLEGE LONDON

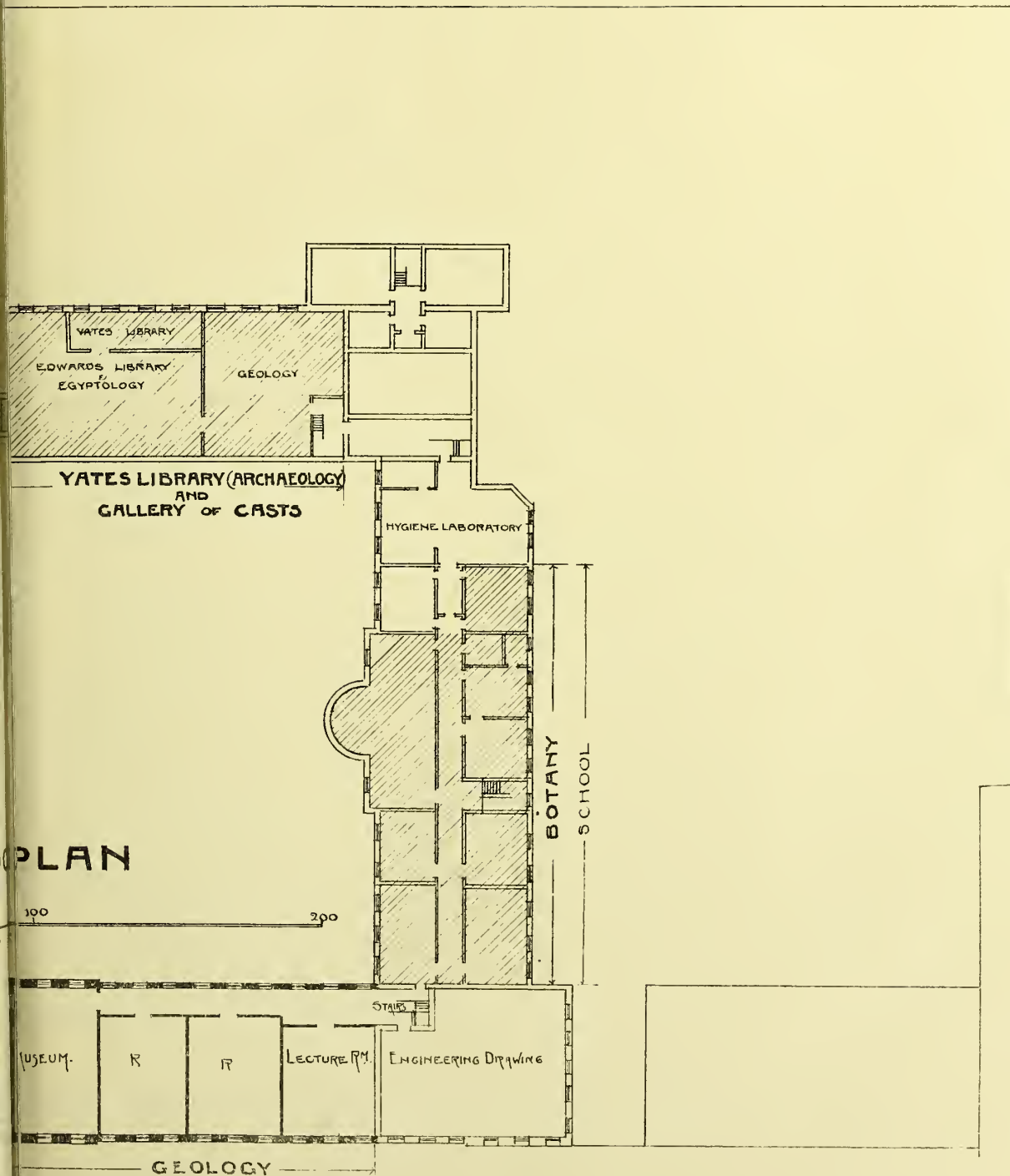
PROPOSED ALTERATIONS & ADDITIONS



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SEE EXPLANATORY NOTE PAGE XII



PREFATORY NOTE.



ON page 3 of the following Appeal, which was drawn up in the autumn of 1901, the Council point out that the ideal solution of the University question in London would best be attained by the incorporation of the College in the University, so that the College may serve as the foundation on which a Teaching University in London may be built up.

A resolution in favour of incorporating the College in the University was adopted by the College Council in 1898, and proposals with a view to the incorporation being carried out were submitted by them to the Statutory Commission which was then engaged in drawing up Statutes and Regulations for the reconstituted University of London. The Commissioners, however, were of opinion that the matter should be left to be dealt with by the Senate of the new University, and no further action was taken at that time.

A considerable advance in this direction has, however, been made during the last few weeks.

The Drapers' Company have made to the Senate of the University of London an offer in the following terms:—

“That the Drapers' Company believing that it is for the good of the higher education in London that University College should be incorporated in the University of London, and that for this purpose it is desirable to place the site, land, buildings, and endowments of the College at the complete disposal of the University, are willing to facilitate this object by making themselves responsible for the debt on University College to the extent of £30,000, provided that the Senate of the University and the Corporation of University College can, before February 28th, 1903, agree upon a scheme for the incorporation of the College in the University and such scheme be approved by the Company.”

A former Student of the College who desires at present to be anonymous has made an offer to the Council equivalent to a sum of £30,000 on condition that the College is incorporated in the University on terms satisfactory to Sir Michael Foster and two other persons yet to be named.

A Committee has been appointed by the Senate of the University of London to confer with a Committee of the Council of the College to consider and report upon the details of incorporation.

These Committees have not completed their deliberations but have agreed on certain points, namely :

1. For incorporation to take place the College must be free of debt.
2. The University will not take over University College School. Accommodation for the School must therefore be provided upon a new site. (See p. 4.)
3. The University will require extensive re-arrangements in connexion with the Medical School. (See p. 5.)

The generous proposal of the Drapers' Company provides for satisfying the first of these conditions. To provide for the second and third and for refitting the School premises so as to adapt them for University purposes it is estimated that not less than £110,000 will be required in addition to what has already been promised.

The Council regard the incorporation of the College in the University as of the greatest importance : in the first place as affording the best realisation that is now possible of the plans of those who, three-quarters of a century ago, founded the College with the intention of creating a University in London ; secondly, as the first and most effectual step that can be taken towards the building up, in connexion with the present University, of a great organisation for University teaching and research and converting the University into a true seat of learning.

Consequently, in the present Appeal, made with the assent of the Senate of the University of London, they ask in the first place for such contributions as will enable them to comply with the conditions of incorporation stated above.

Without this amount of support incorporation cannot take place.

But much larger sums are necessary in order to render incorporation fruitful.

The Council, being convinced that the most effectual and most economical way of providing adequately for University teaching and research is to build upon the substantial foundation which the organisation and property of the College afford, ask for a million pounds to be contributed for the development and extension of the College as an integral part of the University.

Their desire is to bring to the making of the University of London an Institute adequately equipped and endowed for Higher Teaching and Research. If their wishes are realised, whatever is given to the College will be in form as well as in essence given to the University; but should it turn out that for any reason the incorporation of the College into the University is impracticable, the Council will devote any sums entrusted to them, without express provision to the contrary, to the development of the College on its present basis as a "School of the University."

The College has never been more efficient, either in the ability of its teachers or the completeness of its material equipment, than it is at this moment, and the Council look forward confidently to its being able to maintain, either as part of the growing organism of the University, or as an allied but autonomous institution, the great traditions of its past.

March 25th, 1902.

AN APPEAL
FOR THE
ENDOWMENT OF UNIVERSITY EDUCATION AND RESEARCH
AT
UNIVERSITY COLLEGE, LONDON,

**National Im-
portance of
Scientific
Research.** THE last twenty years have witnessed not only an unprecedented expansion in all departments of knowledge, but also the birth and growth of many branches which previous to this time had no existence. This growth has been accompanied by an ever increasing influence of science on all varieties of industry, and it has been shown again and again that the success of any industry is in direct proportion to the degree in which scientific method is brought to bear on it. Every new discovery, however recondite, may sooner or later have its practical application, which in its turn is devised by some man trained in pure science and in the adaptation of experimental conditions to the desired results, or, to put it briefly, in the carrying out of research. What we need therefore, even more than men thoroughly instructed in existing knowledge, is men who can deal with new circumstances and find their own way through new difficulties where no beaten track has been worn by those who have gone before. The only training which most men get to fit them for independent action is afforded by the practical experience of life, and is usually obtained at the cost of many failures ; but there is one part of a modern University curriculum in which the power and habit of encountering new problems is systematically developed. This is the practical instruction in scientific research which every properly organised University Laboratory furnishes. No other part of systematised educational methods affords the same training as scientific research in meeting unforeseen difficulties, ascertaining their nature, and devising rational and carefully thought-out means for overcoming them. Hence it becomes of the highest importance in our national economy that we should possess, in as high a degree as possible, the mechanism for making knowledge, for training men to make knowledge, and for

equipping a large number with the habit of scientific thought. This mechanism consists in the first place of laboratories, in the widest sense of the term, and, in the second place, of picked men who are free to devote themselves to the advancement of knowledge for its own sake and to the training of men who are able or enabled to devote three to five years to a thorough study of a subject, and will apply the methods of their teachers to the treatment of so-called practical questions, or in their turn devote themselves to the advancement of knowledge.

To this end of increasing the intellectual capital of the nation, University College was founded. That it has not been backward in carrying out its trust is shown by the mass of original papers, recording work done in the College, which have been issued from its laboratories, as well as by the men distinguished in various branches of knowledge, who owe their mental equipment to the work they did at the College. A list of the original papers which have issued from the College during the last ten years is appended to this pamphlet.

Necessity for Endowment. The highest educational work however can never be directly remunerative, so that its extent must be absolutely limited by the amount of external financial help which is available. The experience of foreign Universities shows that the average cost of educating each student amounts to between £50 and £70 a year, if proper provision be made for higher teaching and research, a sum which is far beyond the means of the majority of students. The ordinary fees in the English Universities amount to between £20 and £30 a year, so that considerable endowments are necessary, if the higher work, the training of researchers, which is of the greatest value to the nation, is not to be neglected. With the recent growth of science the requirements of teaching have increased by leaps and bounds, and the buildings and endowments, which were not more than adequate for their purpose ten or twenty years ago, no longer suffice for the development of the various departments of University College in accordance with the requirements of the present day. The College has given its intellectual gains without recompense to increase the mental capital of the community, and it is therefore justified in asking the members of the community to provide funds which may serve for its development, so that it may be able to extend its work of teaching and research in accordance with the increased growth of human knowledge.

Example of other Countries. All civilised nations except England have recognised the fundamental importance of scientific studies and University education in promoting the material welfare of their citizens. In Germany approximately 1 in 1500 of the population receives a University education. To the expenses of this education the State contributes from £20 to £50 per student by way of grants to the Universities, its total expenditure on its 22 Universities being £753,000 a year.

France in like manner spends £740,000 a year on its 16 Universities. In America the work of providing for higher education and research has been largely undertaken by private individuals, thus carrying on a practice which, though now apparently in abeyance in England, gave to this country the Universities of Oxford and Cambridge. Thus the Leland-Stanford University of California has received no less than £9,000,000 sterling from private munificence, Chicago University over £2,500,000, the Johns Hopkins University £1,400,000, and the Cornell University over £1,000,000. Many other examples might be cited, but the few given may serve to show how our chief trade rivals are arming themselves in the peaceful struggle for international supremacy.

The re-constituted University of London. The re-constitution of the University of London has facilitated the organisation of higher education in London, by establishing a relation between the teaching and the examining for degrees, and has drawn closer the connections between the University and the Colleges. But no real improvement in University education can take place while the teaching apparatus of the University is hampered at every step by lack of funds. Whether the University continues to teach through its constituent Colleges, or takes upon itself the direct control of the teaching by the absorption of the Colleges, a policy which appears to be the ideal solution of the University question in London, all development is impossible unless funds are available for increasing the present laboratory accommodation and endowing professorships. The existing institutions must serve as the foundation on which the Greater London University will be built up. University College, in its work, its ideals, and the men it has attracted to its Chairs, has carried out all the functions of a University except that of granting degrees. By perfecting and completing the College, we shall place at the disposal of the University an institute adequately equipped for teaching and research in all faculties. The College already has behind it a tradition of the highest academic work; and it would fulfil the aims of its founders if it should contribute, by its existing organisation, to the making of the greater London University which is one of the most urgent needs of the Empire.

To enable this work of completion to be carried out is the object of the present Appeal.

Needs of University College. Foremost among the requirements of University College at the present time is increased accommodation for teaching and research, both in Science and Arts. This need of more space, which is felt in all departments of the College, is especially prominent in the cases of Chemistry, Engineering, Botany, Zoology, and the Medical sciences of Anatomy, Physiology, and Pathology, and in each of these the greatest lack is in the proper

provision of facilities for research. Moreover, the grant for expenses in each of these departments is quite insufficient. Every additional advanced student involves a far greater expense to the department than is represented by his fees, and in order to carry on the work of research the Professors have to supplement the grant for expenses out of their own incomes.

For the extensions which are immediately necessary, the College possesses ample space. At the present time the College forms an imperfect quadrangle, of which the West Side is incomplete (*vide* Plan). The whole of the South Wing is, however, occupied by the Boys' School (University College School), which also has the use of $1\frac{1}{2}$ acres of College land as a playground.

In order to obtain the needful accommodation for University teaching and research, it is necessary in the first place to obtain possession of the South Side by removing the Boys' School. The removal of the School is desirable in its own interests, for although Gower Street is a suitable position for a University Institute, it is no longer as suitable as it once was for a boys' day school.

The School has great traditions, and like the College has done pioneer work. It ought to be provided with a dignified building on a fine freehold site further from the centre of London: it is estimated that the cost of this would be at least £60,000. If the School were thus provided for, its buildings and playground would be available for University purposes. The Department of Botany might be housed on the top floor, the lower floors being allocated to the Faculties of Arts and Laws, for the provision of much-needed Seminars (research work-rooms) and class-rooms for the Modern Language and History Schools, Teachers' Training, and other departments.

In the second place, the quadrangle must be completed by building the West Side. In the south half would be found the extra space required for Engineering, Applied Mathematics, and Geology. In the north half, the upper floor would be devoted to Physiology, the first floor to Physiological and Pathological Chemistry, and the ground-floor and basement to Chemistry. A certain amount of space would in this way be set free in the North Wing, and would be altered to accommodate the new department of Pharmacology (the science of drugs).

The increased accommodation in the Anatomical department, including the provision of an anatomical museum, as well as special laboratories for work in vertebrate morphology and embryology, will be provided by a remodelling of the north-east corner of the College and of the present low buildings in the

courtyard. The rebuilding of this block will also provide the much-needed extension of the Zoological department. In the same way the Physics department could be enlarged by adding to the present building.

The completion of the West Wing and its equipment would cost £100,000. The consequential alterations and extensions in the rest of the College for the accommodation of the departments of Zoology, Anatomy, Physics and their branches, would cost another £40,000.

Advanced Medical Studies. At the present time the lectures and classes in the subjects of advanced medical education are given in rooms belonging to other departments to the detriment of the work of both sets of departments. The provision for the teaching and study of Pathology and Bacteriology is inadequate, and at the same time takes up space in the College which is much wanted for other purposes. It would be of very great advantage both to the Medical Faculty and to the rest of the College if a separate building were provided in close proximity to the Hospital, containing class-rooms and laboratories in the subjects of advanced medical study, as well as a Pathological Museum, in which the rich store of material which is constantly accumulating would be displayed to advantage and made available for the purposes of study. Such a building could be erected either on or just behind the site marked Medical in plan No. 2, and would cost about £40,000.

A reference to the plans will show how the proposed arrangements of laboratories will bring together the various departments according to their natural relations, thus providing for that continual interchange of ideas, men, and material which is of so supreme importance in the organisation of a University Institute.

Library. One of the most important features of a University institution is a Library which shall contain a representative collection of literature of all ages, and a full collection of recent scientific literature embodying the results of actual work done. The library at University College already contains 100,000 volumes, but it is so overcrowded that access to the books is difficult and sometimes almost impossible. Increased library accommodation is therefore urgently needed by every department of the College. If the separate accommodation mentioned above be provided for the anatomical and pathological collections, the present museum could be converted into a library adapted in every way for its purpose. The present library could then be utilised for displaying the unrivalled Egyptological collections of Professor Petrie, and would serve as a laboratory for research in this and other branches of archæology. The cost of these alterations, including the necessary expenditure in bringing the library up to date, would be £10,000.

Working Expenses. A sum of £250,000 in all is therefore required for the extensions in laboratories, class-rooms, and library, which are immediately necessary for the proper carrying out of higher teaching and research at University College. But it is not sufficient merely to supply buildings and equipment. In order that these may be used to the greatest advantage, funds must be supplied for working expenses, since, as has been shown above, it is impossible to make University teaching directly remunerative. At the end of this chapter will be found a summarised account of the needs of the different departments, and from this it will be seen that, in addition to the proportion of students' fees, which may be expected to be available, at least £6000 a year must be set aside for the ordinary working expenses of the departments of the College, expenses mainly incurred in the prosecution of research or the training of men for research. This amount includes an annual sum of £750 for the purchase of books and scientific periodicals for the library.

Sum required for Building and upkeep. Thus, in addition to the £250,000 immediate expenditure on buildings, a sum of £6000 a year, equivalent to a capital sum of £200,000, is required for the upkeep of the various departments of the College.

Endowment of Teachers. Still more important is the provision of men who shall direct and use this machinery of teaching and research; men who will attract students and workers, not only from London but from all parts of the Empire, and may act as leaders of great schools of research.

But it is impossible to obtain or retain men of this stamp unless we can place at their disposal an adequate remuneration. At the present time, most of the Professors are badly paid, and, owing to the lack of funds for the payment of Assistants, they have to devote far too large a proportion of their time to the work of elementary teaching, to the exclusion of the far more important, but unremunerative, work of research and training of men for research. Moreover, owing to the lack of new endowments, it has been extremely difficult to meet the ever growing complexity of the various branches of knowledge by the provision of new professorships, so that one man is called upon to lecture on subjects which could well involve the total energies of three or four specialists. Thus the whole subject of History, Ancient and Modern, has but one representative at University College. The professors of German and French, eminent linguists and authorities in the history of their subjects, have to spend a large proportion of their time in imparting knowledge which ought to have been acquired at school. The enormous and important subject of Chemistry, organic, inorganic, physical, metallurgical, with all its

varied applications, is represented by only one professorship. The professor of Physiology is expected to be equally well acquainted with, and to give instruction in minute Anatomy, Embryology, Physiological Chemistry, as well as in Physiology properly so called.

In order, then, to provide for the work of higher education in London, it is necessary that provision should be made for the endowment of new professorships, for the maintenance of lecturers and assistants, as well as for the endowment of those chairs which are at present unendowed. It is evidently desirable to offer such salaries as may enable first-rate men to stay in London. The Council, however, consider that it is better in the first place to provide a minimum endowment of £300 * a year for all chairs, if by so limiting their demands on the public, they may provide a University Institute which is fairly complete and representative of all the chief branches of knowledge.

Amount Even on this modest basis the annual sum required for the
Required. payment of professors, assistants, and lecturers, amounts to £20,000. This sum, together with the £6000 already mentioned (page 6) as the estimated annual income required for upkeep, amounts to £26,000 a year, representing a capital sum of (say) £900,000. Adding to this the £250,000 required for the completion and improvement of buildings, it appears that a capital sum of more than **one million pounds**—or, in part, equivalent annual income—is required for the full development of the College; so that, as an integral part of the University of London, it may contribute as a potent factor to the intellectual and material progress of England.

* At Oxford and Cambridge the usual endowment is £800 to £900 a year. Under the arrangement proposed, the Professor or, where there is more than one Professor, the Professor-Director in each department would receive a share of the fees.

LIST OF PROFESSORSHIPS AND LECTURESHIPS REQUIRING ENDOWMENTS.

Faculties of Arts and Laws.	Yearly Sum required.	Faculties of Science and Medicine, and Engineering.	Yearly Sum required.
Philosophy.	£	CHEMISTRY :	£
PHILOSOPHY OF MIND AND LOGIC :		Professor-Director	300
Two Lecturers at £50. . . .	100	Professors of Organic and of	
EXPERIMENTAL PSYCHOLOGY :		Physical Chemistry at £300 ..	600
Lecturer	200	Five Demonstrators	1000
MORAL PHILOSOPHY AND ETHICS		PHYSICS :	
including ANCIENT PHILOSOPHY :		An extra Professor	300
Professor	300	Lecturer	200
Education.		Demonstrator	150
Professor	300	ZOOLOGY :	
Two Assistants	400	Lecturer on Embryology at £200	600
Modern Languages.		„ Vert. Morphology at £200	
ENGLISH :		Assistant at £200	
Assistant-Professor	200	BOTANY :	
ROMANCE LANGUAGES :		Assistant Professor	200
Professor-Director (French) ..	300	Two Lecturers	400
Professor of Italian	300	GEOLOGY :	
Lecturer on Romance Languages	200	Two Lecturers in special branches ..	400
Reader in Spanish and Portuguese	100	ANATOMY :	
GERMANIC LANGUAGES :		Professor	300
Professor	300	Demonstrators	400
Lecturer	200	PHYSIOLOGY :	
Reader in Dutch	100	Professors of Histology and of Phy-	
Reader in Scandinavian Languages	100	siological Chemistry at £300 ..	600
CELTIC LANGUAGES :		Four Lecturers	200
Professor	300	Three Demonstrators	600
SLAVONIC LANGUAGES :		PHARMACOLOGY (new department):	
Reader	100	Professor	300
Oriental Languages.		PATHOLOGICAL CHEMISTRY :	
Professorships	500	Professor	300
Classical Languages.		PATHOLOGY :	
Professor of Greek	300	Professor	300
Professor of Latin	300	Three Assistant Professors ..	600
Lecturer on Latin and Greek ..	200	Assistants	600
Professor of Comparative Philology	300	Curator of Museum	300
Historical Studies.		MEDICAL JURISPRUDENCE :	
ARCHÆOLOGY :		Professor	300
Lecturer on Assyriology and Cunei-		MECHANICAL ENGINEERING :	
form	200	Professor	300
Lecturer on Prehistoric Archæology	200	Two Demonstrators	400
EGYPTOLOGY :		Lecturer on Machine Design ..	200
Lecturer on Egyptian Language.	200	ELECTRICAL ENGINEERING :	
HISTORY :		Two Demonstrators	400
Professor of Ancient History ..	300	MATHEMATICS :	
Lecturer on Palæography	200	Two Professors at £300	600
Professor of Modern History ..	300	Assistant	150
Four Lecturers at £50	200	APPLIED MATHEMATICS :	
Political Economy.		Two Professors at £300	600
Professor	300	Assistant	150
Four Lectureships at £150 ..	600	ASTRONOMY :	
Fine Art.		Professor	300
Two Lectureships at £150 ..	300		
Law.			<u>£12,050</u>
Two Professors of English Law			
at £300	600		
Professor of Jurisprudence and			
Roman Law	300		
	<u>£8,800</u>		

TABLE SHOWING REQUIREMENTS OF RESPECTIVE DEPARTMENTS.

[As from some sources a special endowment for a single Department may be hoped for, the amount required for each subject is also stated below. Such endowments might be permanently associated with the names of the Founders.]

S.—The Departments marked S will be housed either entirely or partly in the present School Buildings; the purchase-money of the School Buildings may therefore be regarded as the cost of supplying these Departments with new buildings.

DEPARTMENT.	Annual Income required.	= Capital at 3 %.	Building and Apparatus.	Total.
Philosophy.	£	£	£	£
Staff	600			
Psychological Laboratory Fund	200	27,000		
Psychological Laboratory .....	....	....	2,000	29,000
Training of Teachers.				
Staff	700	23,000	S	23,000
MODERN LANGUAGES.				
English: Staff	200	7,000	S	
Romance Languages: Staff	900	30,000	S	
Germanic Languages: Staff	700	23,000	S	
Celtic Languages: Staff	300	10,000	S	
Slavonic Languages: Lecturer	100	3,000	S	73,000
CLASSICAL LANGUAGES:				
Staff	1,100	37,000	....	37,000
ORIENTAL LANGUAGES.				
Staff	500	17,000	S	17,000
HISTORICAL STUDIES.				
Archæology: Staff	400			
Maintenance of Museum and Library ..	100	17,000		
Museum of Casts (available also for Depart- ment of FINE ART) .....	....	....	5,000	22,000
Egyptology: Staff	200			
Maintenance of Museum	150	12,000		
Museum .....	....	....	5,000	17,000
History: Staff	1,000	33,000	S	33,000
ECONOMIC STUDIES.				
Staff	900	30,000	S	30,000
FINE ART.				
Staff	300	10,000	....	10,000
LAW.				
Staff	900	30,000	....	30,000

REQUIREMENTS OF RESPECTIVE DEPARTMENTS (*continued*).

DEPARTMENT.	Annual Income required.	= Capital at 3 %.	Building and Apparatus.	Total.
SCIENTIFIC STUDIES.	£	£	£	£
Mathematics.				
Applied Mathematics.				
Astronomy.				
Staff and Expenses	1,875	62,000	....	62,000
Physics.				
Staff and Expenses	950	32,000		
Laboratory Extension .....	....	....	10,000	42,000
Chemistry.				
Staff and Expenses	2,500	83,000		
New Laboratory .....	....	....	40,000	123,000
Geology.				
Staff and Expenses	700	23,000		
New Laboratory .....	....	....	10,000	33,000
Botany.				
Staff and Expenses	1,050	35,000		
Equipment of New Laboratory .....	....	....	5,000 S	40,000
Zoology.				
Staff and Expenses	900	30,000	5,000	35,000
Anatomy.				
Staff and Expenses	1,200	40,000		
Reconstruction of Buildings .....	....	....	15,000	55,000
Physiology.				
Staff and Expenses	1,900	63,000		
New Buildings .....	....	....	30,000	93,000
Pharmacology.				
Staff and Expenses	600	20,000		
New Building .....	....	....	5,000	25,000
Pathology.				
Staff and Expenses	2,500	83,000		
New Building .....	....	....	25,000	108,000
Pathological Chemistry.				
Staff and Expenses	600	20,000	....	20,000
Medical Jurisprudence.				
Staff and Expenses	500	17,000		
New Building .....	....	....	5,000	22,000
ENGINEERING DEPARTMENT.				
Mechanical Engineering.				
Staff and Expenses	1,200	} 63,000		
Electrical Engineering.				
Staff and Expenses	700			
New Buildings .....	....	....	20,000 S	83,000
ARCHITECTURE.				
Expenses	300	10,000		
Building .....	....	....	5,000	15,000
LIBRARY.				
Expenses	1,000	30,000		
Reconstruction of Buildings .....	....	....	10,000	40,000
PURCHASE OF BOYS' SCHOOL .....	....	....	....	60,000

AN ACCOUNT
OF THE
VARIOUS DEPARTMENTS OF THE COLLEGE,
their Needs and their Proposed Development.

PHILOSOPHY.

PHILOSOPHY OF MIND AND LOGIC.

Present Staff.

Professor JAMES SULLY, M.A., LL.D.

Assistants: F. RYLAND, M.A., late Scholar of St. John's College, Cambridge.

W. F. McDOUGALL, M.A., M.B., late Fellow of St. John's College,
Cambridge.

A. WOLF, M.A.

Special Endowments and Benefactions.

Grote Endowment of Professorship, £214 a year.

THE aim and scope of the work of this department was thus set forth in the *Statement* issued by the founders of the College:—"As the Physical Sciences aim at ascertaining the most general facts observed by sense in the things which are the object of thought, so the Mental Sciences seek to determine the most general facts relating to thought or feeling, which are made known to the being who thinks by his own consciousness"; and the *Statement* goes on to explain how though "the subdivision of this part of knowledge would be very desirable on account of its importance and intricacy," it would in the first instance be provided for by the chair of Logic, while the chair of Moral (and Political) Philosophy would deal with Ethics as distinguished from the other moral science of Jurisprudence, which would also claim the attention of the general student.

If we add Psychology to the subjects suggested therein, we have an adequate definition of the work that the department ought to do.

Hitherto there has been one professor, endowed under the Grote Trust. Three years ago, by the enterprise of the present holder of the chair, Professor James Sully, a laboratory of Experimental Psychology was instituted and placed under the care of a special assistant. This was an important new departure, and requires further space and endowment to carry it to completion.

For the further development of the department another professorship is required to deal with Ethics: the existing Grote chair would have for its province Modern Philosophy, Psychology and Logic. The subject of the History of Philosophy might be divided between the two Professors.

Such would be in complete accordance with the views of the late Professor Croom Robertson who made the reputation of the department, and whose care for the development of Philosophical teaching was unceasing (see "Philosophical Remains" and "Mind," Vol. I.).

The Department of Philosophy would therefore consist as follows :—

I. PHILOSOPHY OF MIND AND LOGIC.

Professor (already provided by the Grote Endowment).

Two advanced lecturers on special subjects, varying from year to year, at £50 a year each.

I A. SUB-DEPARTMENT OF EXPERIMENTAL PSYCHOLOGY.

Lecturer at £200 a year.

For this sub-department a new laboratory is absolutely necessary both for instruction and research, which should include lecture- and class-rooms, as well as rooms for research in special parts of the subject. This laboratory would be placed in close proximity to the physiological laboratory, as many parts of the subject are of equal importance to students of philosophy and students of physiology.

The cost of such a laboratory would not exceed £2000, and a yearly sum of £200 should be provided as an endowment for laboratory expenses.

II. Professor of MORAL PHILOSOPHY AND ETHICS (including Ancient Philosophy), at £300 a year.

The total endowments required are therefore :—

Additional Staff, £600 a year ;

Endowment of Laboratory, £200 ; making in all £800 a year, equivalent to a capital sum of £27,000 ;

Provision of laboratory for Experimental Psychology, £2000.

Making a total sum of £29,000.

EDUCATION

AND THE

TRAINING OF TEACHERS.

IN close connection with the department of Philosophy and the Laboratory of Experimental Psychology it is hoped to develop a new department of Education. This department should be open only to those who have graduated or have reached an equivalent standard: it would add completeness to the training received in other departments for those who propose to make education and teaching their profession. To train men for educational administration and to send out teachers trained in methods of investigation who know how to apply those methods to teaching, are among the important functions of a University Institute by which it may do direct service to the community. It is indeed only in an Institution where the chief branches of learning are pursued and developed in the most complete way that such a department can be properly organised.

Those who desire to be teachers ought to be trained in a place where they will come into contact with students of different aims: to create a special institution for them is to confine and restrict their training within very narrow limits.

For such a department as is contemplated all the other departments of the College would be available. It would require a Professor and at least two Assistants, also a suite of rooms, including a lecture-room and departmental library.

The endowments required are:—

Professor	£300 a year.
Two Assistants (£200 each) .	£400 „

Or a capital sum of about £23,000.

MODERN LANGUAGES.

ENGLISH LANGUAGE AND LITERATURE.

Present Staff.

Professor W. P. KER, M.A., LL.D. (Glasgow), Fellow of All Souls' College, Oxford.

Assistant Professor: T. G. FOSTER, B.A., Ph.D., Fellow of the College.

Lecturer: R. W. CHAMBERS, B.A., Quain Student, Fellow of the College.

Special Endowments.

Quain Professorship, £350 a year.

Quain Studentship, £150 a year.

FRENCH LANGUAGE, HISTORY, AND LITERATURE.

Present Staff.

Professor LOUIS M. BRANDIN, L.-ès-Lettres (Paris), M.A., Ph.D.

Special Endowment.

Fielden Fund, £100 a year (temporarily allocated to this chair).

GERMAN LANGUAGE AND LITERATURE.

Present Staff.

Professor R. PRIEBSCH, Ph.D.

Special Endowments.

Fielden Fund, £100 a year (temporarily allocated).

Quain Fund, £50 a year (temporarily allocated).

ITALIAN LANGUAGE AND LITERATURE.

Professor A. J. BUTLER, M.A., late Fellow of Trinity College, Cambridge.

Endowment. None.

BARLOW LECTURER ON DANTE:

The Rev. E. MOORE, D.D., Principal of St. Edmund Hall, Oxford.

Special Endowment.

Barlow Bequest, £26 a year.

For the English people, having various races speaking various tongues as fellow-subjects and associated in one way or another with all the leading peoples of the world, there can be few matters of greater importance than a knowledge of languages. That knowledge must, if it is to have any real value, be something more than is required in carrying on an ordinary conversation or the regular routine of commercial correspondence: it must be a knowledge that can interpret the finest shades of meaning in other languages, a knowledge based upon historical study that brings with it an insight into the traditions and aspirations of other peoples. With such an aim in view there can be no separation of literature from

language. No one can know in any but a superficial sense the language of a people apart from the literature nor the literature apart from the language.

To train students to know languages in this sense is the object of a University department of Languages. There can be no place more suitable for the creation of such a department than the capital of the Empire—not only from its Imperial position but from the rich stores of yet unexplored knowledge that its Museums and great Libraries contain. All the leading Universities of Europe and America send their scholars to make use of these riches.

There can be no institution more suited to develop such work than University College, London. It is close to the British Museum, close to the Record Office, and it contains within its own walls valuable collections of books: what is perhaps more conclusive in its favour is that it contains already the nucleus of a University Institute of Languages, and possesses therefore the right sort of tradition.

At the time of the foundation of the College, Modern Languages were given a conspicuous place in its curriculum and have ever since maintained that place.

There were Chairs of English, French, German and Italian from the beginning of the College.

The present, with the growing sense of the importance of imperial unity and of amity with foreign nations, begotten of full understanding, makes the time peculiarly opportune for the further development of the work of which the College has so carefully and successfully laid the foundations. The re-constitution of the University of London enforces the desirability of the development aimed at.

In the Teaching of Modern Languages the national language and literature should be foremost. To make the teaching of the national language and literature the centre of elementary and secondary education is eminently desirable: when this has been accomplished the culture of the nation will to a large extent depend upon its knowledge of the national literature, so too will the hope of further literary creation. Further, the surest foundation of language-study in general is a sound knowledge of the native tongue.

The foundations of a historical system of study were laid between 1838 and 1845 by Professor R. G. Latham at University College, and his successors, Professors Henry Morley and W. Paton Ker, have not failed to build upon them. The Chair of English has been endowed under the Quain bequest to the extent of £350 a year: a Studentship has also been founded under the same endowment of £150 a year: there is already on foot a movement to found a Stopford Brooke Lectureship for Modern Poetry. A further endowment of £200 a year is necessary for an Assistant-Professor whose duty it would be to assist the Professor in the organisation and teaching of the department and to undertake original investigations.

The study of English “puts such a branch-work forth as soon extends” to the Classical Languages on the one side and to Modern Foreign Languages on the other that it is not complete without them. This must be borne in mind in the organisation of the departments of Germanic and Romance Languages: for instance the teaching of the Norse Languages requires to be associated more closely with that of English than with that of the other Germanic Languages.

**Romance
Languages.**

prospectus for

French.
Italian.
Spanish.
Portuguese.
Provençal.

The historical study of French was practically begun in this country by Prof. C. Cassal who held the Chair from 1860–1885. Prof. Louis Brandin, the recently appointed Professor, has laid down a scheme in this year's prospectus for the future working of the department. This scheme contemplates the bringing together of all the Romance Languages in one large department providing specially for the study of French, Italian, Spanish, Portuguese and Provençal. Chairs of French and Italian are already in existence but neither of them is endowed. The minimum endowment for each should be £300: further endowments of £200 for a Lecturer who would assist the professor at the head of the Romance department, and of £100 a year for a Reader who would take as his province special parts of the subject not otherwise provided for are necessary. The work in Italian would be helped by the existence of the Barlow Lectureship for Dante, from which already a large number of publications has resulted.

In the work of Dr. A. Heimann (1847–74) and of Dr. Althaus (1874–97) the College can lay claim to no small share in the extension of the knowledge of the language and literature of Germany in this country as well as of the knowledge of English in Germany.

German.

Dutch.

*Scandinavian
Languages.*

Prof. Robert Priebisch, the present occupant of the Chair of German, has not been slow to bring the organisation of his department into line with the present state of scholarship on the continent. In order to complete his efforts endowments are wanted. For the Professor of Germanic studies £300 a year, for an Assistant £200 a year, and Readerships in Dutch and Scandinavian Languages £100 a year each.

**Celtic
Languages.**

It is desirable to institute a new Chair of Celtic Languages, the study of which has hitherto been strangely neglected in England. It will be sufficient to institute in the first instance a Professorship at £300 a year.

**Slavonic
Languages.**

Provision ought at once to be made for the study of the Slavonic Languages, more particularly of Russian. It is proposed to begin by founding a Readership at £100 a year.

**Practical
knowledge.**

In all the foreign language departments the practical side should not be lost sight of, and it should be the special duty of the Lecturer or Assistant to undertake the detailed supervision of the actual speaking and writing of the contemporary languages. Special provision should be made for the teaching of the various languages of the Empire.

Each of the groups will require a set of rooms consisting of Lecture-room, Departmental Library and Study, and Staff private rooms. These rooms can be provided on the Ground Floor of the South wing, and each set can adjoin the others—a fact of no small importance when the close relationship of the several languages is considered.

The adaptation of the existing buildings to this purpose will cost at least £1,500.

The needs of the Modern Language Departments may be summarised as follows :—

(1) **ENGLISH.**

Assistant Professorship. £200 a year.

(2) **ROMANCE LANGUAGES.**

Professor of French, and Director of the Romance Department . £300 „

Professorship of Italian £300 „

Lectureship on Romance Languages £200 „

Readership in Romance, with special charge of certain subjects
not otherwise provided for (*e.g.* Spanish and Portuguese). . £100 „

(3) **GERMANIC LANGUAGES.**

Professor-Director of Germanic Studies £300 „

Assistant Professor £200 „

Readership in Dutch. £100 „

Readership in Scandinavian Languages. £100 „

(4) **CELTIC LANGUAGES.**

Professor of Celtic £300 „

(5) **SLAVONIC LANGUAGES.**

Reader in Slavonic Languages £100 „

Total endowment required for Modern Languages £2,200 a year, or a capital sum
of £70,000.

ORIENTAL LANGUAGES.

HEBREW. (GOLDSMID PROFESSORSHIP.)

Professor S. SCHECHTER, M.A., Litt.D.

Special Endowment.

Goldsmid Endowment, £62 a year.

No endowment is at present attached to any of the following:—

SANSKRIT.

Professor C. BENDALL, M.A., late Fellow of Gonville and Caius College, Cambridge.

PALI AND BUDDHIST LITERATURE.

Professor T. W. RHYS DAVIDS, Ph.D.

ARABIC.

Professor S. A. STRONG, M.A.

PERSIAN.

Professor R. ALLEYNE NICHOLSON, M.A.

HINDUSTANI.

Professor J. F. BLUMHARDT, M.A.

HINDI.

Lecturer: Prof. J. F. BLUMHARDT, M.A.

BENGALI.

Lecturer: Prof. J. F. BLUMHARDT, M.A.

MARATHI.

Lecturer: Prof. J. W. NEILL.

TAMIL.

Lecturer: R. W. FRAZER, B.A., LL.B.

GUJARATI.

Lecturer: Dr. S. A. KAPADIA.

TELUGU.

Lecturer: R. W. FRAZER, B.A., LL.B.

BURMESE.

Lecturer: JAMES E. BRIDGES.

FROM the list given above it is seen that teaching is provided in a very complete way for Indian Civil Servants. While the history of the Oriental School at University College shows a good record on this purely practical and imperial side, it shows also that the success has been based on historical foundations and has been the result of literary research.

Professor August Rosen (1835–39) was the first European to edit the Rig-veda; Thomas Goldstücker (1852–72) succeeded in making Oriental studies attract large audiences by the

vigour of his writing and lecturing : while the knowledge of Pali and Buddhist Literature in this country is largely due to Prof. R. C. Childers (1873-76) (the first occupant of the first Chair of Pali in Europe), and to Prof. T. W. Rhys Davids.

The School is entirely without endowment : the payment of the professors is therefore entirely dependent on their fees, which of course are not large. The Indian Government has already indicated its willingness to help, on condition that the College provides an equal endowment. It is desirable to provide at once an annual endowment of at least £500.

Other Oriental Languages are taught at King's College : it may ultimately be found desirable to bring them all together. This is a problem that awaits solution at the hands of the University. Meanwhile the College desires to put the Indian section on a thoroughly satisfactory basis.

It is proposed to place the Oriental Languages also in the South wing, and to provide it with a set of rooms on the first floor. The College already possesses a good collection of Oriental books, including the Morrison Chinese Library : the collection wants bringing up to date. The necessary structural alterations can be made for about £500, but an expenditure of £5,000 would be necessary in order to obtain possession of those rooms which are at present occupied by the Boys' School.

The needs of the Department for Oriental Languages may be summarised as follows :—

Annual endowment required (at least) £500.

Or a capital sum of about £20,000.

THE CLASSICAL LANGUAGES.

[GREEK ; LATIN ; COMPARATIVE PHILOLOGY ; CLASSICAL ARCHÆOLOGY.]

LATIN.

Professor A. E. HOUSMAN, M.A.

Goldsmid Fund: £100 (temporarily allocated to this Chair).

GREEK.

Professor ARTHUR PLATT, M.A., late Fellow of Trin. Coll. Camb.

Hollier Fund: £100 ; Goldsmid Fund: £100 (both temporarily allocated to this Chair).

COMPARATIVE PHILOLOGY.

Professor J. P. POSTGATE, M.A., Litt.D., Fellow of Trin. Coll. Camb.

No endowment.

CLASSICAL ARCHÆOLOGY (see p. 23).

THE Classical Languages have been from the first carefully provided for at University College—not less carefully than any other department of learning. In the list of Professors who have occupied the Chairs of Greek and Latin there is not a name that is not still remembered among classical scholars: George Long, Thomas Hewitt Key, Henry Malden, Francis Newman, Sir J. R. Seeley, Robinson Ellis, Alfred Goodwin, to name only the most eminent, are men who have carried on the best traditions of English scholarship. Many of them have done more, notably Thomas Hewitt Key, who on resigning the Chair of Latin was appointed to a specially instituted Chair, that of Comparative Grammar, the first chair of the kind in this country. Key's chair is now known as the Chair of Comparative Philology. Its existence indicates one of the special sides of classical study for which the College is known, and which ought to be still further developed in the future. Another side, which perhaps should be, above all, the characteristic feature of the Classical School in London, is that of Archæology. Here again the College has done pioneer work: the Chair of Archæology was founded in 1880, and Sir C. T. Newton gave the first courses on Classical Archæology in England. London can hardly hope to outstrip the older Universities in the matter of pure scholarship, but for Archæological work there are unrivalled opportunities. The pure scholarship is of course not to be neglected, and should be brought into relation with the teaching of Modern Literatures; while the Archæological work, on the other hand, will help to strengthen the Historical School that it is hoped to found.

For these purposes all the necessary Chairs are in existence—Greek, Latin, Comparative Philology, and Classical Archæology. Of these only Classical Archæology is endowed; each of the other departments requires a professorial endowment of £300 a year, while at least one Assistant is required to help with the work.

The Archæological Department requires a Gallery of Casts, which would also be available for the purposes of the Fine Art School.

A certain amount of classical training is an indispensable part of a general education, and so must be provided for in any scheme of University teaching. The study of Classical

Languages is intimately associated with Modern Language work. The more advanced branches of classical studies lead on not only to higher linguistic and philological research, but also to History and Philosophy, and provision must be made for them in connexion with those departments.

Their financial needs may be summarised as follows :—

Professorship of Greek	£300 a year,
Professorship of Latin	£300 „
Lectureship on Greek and Latin . . .	£200 „
Professorship of Comparative Philology	£300 „

Or a capital sum of about £35,000 for endowment of Professorships.

HISTORY.

[ARCHÆOLOGY; EGYPTOLOGY; PALÆOGRAPHY; MODERN HISTORY.]

*Present Staff and Endowments.***ARCHÆOLOGY.**

Professor ERNEST A. GARDNER, M.A., late Fellow of Gonville and Caius College,
Cambridge.

Yates Endowment, £300 a year.

Lecturer: REGINALD A. SMITH (of the British Museum).

Yates Endowment, £100 a year.

EGYPTOLOGY.

Professor W. M. FLINDERS PETRIE, D.C.L., LL.D.

Edwards Endowment, £144 a year.

HISTORY.

Professor F. C. MONTAGUE, M.A., Fellow of the College, late Fellow of Oriel College,
Oxford.

No endowment.

ANCIENT INDIAN HISTORY.

Lecturer: Mr. ROMESH C. DUTT, C.I.E.

No endowment.

THE unique opportunities that London offers for a great School of Ancient and Modern History have attracted attention over and over again. There is no need to enlarge on them here: suffice it to say that there is such material for historical research as cannot be found elsewhere. On the side of Ancient History much has already been attempted and achieved. The department of Classical Archæology, referred to under Classics, has been extended by the creation of a Lectureship under the Yates Trust for the purpose of dealing with other branches of Archæology. In order to complete the staff of the Archæological Department, upon which the History School should be founded, two Lectureships are necessary—one on Assyriology and Cuneiform, the other on Prehistoric Archæology. An endowment of £200 per annum is required for each of these.

The Edwards Chair of Egyptology, the only one in England, will make an important section in the work of a comprehensive History School. Under Prof. Petrie the department has developed in a most striking manner. The Professor, besides holding lectures and classes in London, spends a great part of each winter in Egypt. He is in this way able not only to give his best students practical work in excavation, but to add each year to the collection that enriches the department and makes it so valuable a place of study. To house this collection adequately is one of the first duties of the College, and in the re-arrangement that will follow on the completion of the College Buildings, it is proposed to house the collection in what is now the General Library, a building better adapted to museum than to library purposes.

To these existing Chairs should be added one of Ancient History and a Lectureship in Palæography.

In Modern History very little has been done, in large measure owing to the cramping conditions of the old University of London. But those are now things of the past, and the University desires to create a great History School in London. In order to enable the College to take its fair share in this School, it is necessary that endowments should be found for a Professor (£300 a year), and four Lecturers (£200 a year) to whom would be allotted special sections of the work. With the department of Modern History it is desirable to associate the comparatively new branch of learning known as Political Science.

The financial needs of the History School are therefore :—

ARCHÆOLOGY.

Lectureship on Assyriology and Cuneiform	£200 a year.
Lectureship on Prehistoric Archæology	£200 „
Annual Grant for purchase of books and casts for the Departmental Library and Museum	£100 „
Provision of a Museum of Casts	£5000.

EGYPTOLOGY.

Lectureship on the Egyptian Language	£200 a year.
Purchase and housing of Prof. Petrie's Collection . .	£5000.
Departmental expenses, including upkeep of Museum.	£150 a year.

HISTORY.

Professorship of Ancient History	£300 a year.
Lectureship on Palæography	£200 „
Professorship of Modern History	£300 „
Four Lecturers on special periods of History, at £50 a year each	£200 „

A capital sum of £10,000 and an annual endowment of £1850, or in all a *capital sum of £70,000.*

POLITICAL ECONOMY.

Present Staff.

Professor H. S. FOXWELL, M.A., late Fellow of St. John's College, Cambridge.

Special Endowment and Benefactions.

The Newmarch endowment of £57 a year for a special course of lectures which are open to the public without payment.

THE Department of Political Economy has an honourable record as a pioneer department. The holders of the Chair have been

- 1835-1837. J. R. McCulloch;
- 1853-1865. J. Waley, M.A.;
- 1866-1871. J. E. Cairnes, M.A.;
- 1872-1874. The Rt. Hon. L. H. Courtney, M.A.;
- 1875-1880. W. Stanley Jevons, M.A., LL.D., F.R.S.;

and not only they but many of their students have produced and are producing valuable work.

It is desirable that the work of the department should be in close association with that of History (the Lecturer on Palæography, for instance, should be common to both departments), but it is of great importance that its organization should be independent.

In order to put the existing department on a satisfactory footing, it is necessary to provide an endowment for the Professor and for four Lecturers.

Such a staff would only just be adequate; for the scheme of studies should include

1. General Economic Theory, together with Descriptive Economics. (Some parts of this should be treated mathematically, or at least diagrammatically.)
2. The Elements of Statistics.
3. Economic History, especially from 1600.
4. Currency, Banking, and the Exchanges.
5. Public Finance.
6. Railway Economics. (This usually has a separate chair in the United States.)
7. Commerce and Tariffs.
8. Elements of Commercial Law.
9. General Principles of Accountancy.

The department has already the benefit of a small endowment under the Newmarch Trust for a special course of lectures annually, and of endowments under the Joseph Hume and Ricardo Trusts for scholarships.

The Economic section of the Library is well maintained from part of the income of the Ricardo Fund. When the College Buildings are completed, a special set of rooms should be reserved for this department.

The financial requirements of this department, apart from that necessary for the additional accommodation needed, are as follows:—

An endowed Professorship of Political Economy £300 a year.

Four Lectureships, among which the nine subdivisions of the subject mentioned above would be divided according to the men available for the posts £600 a year.

A total sum of £900 a year, or a *capital sum* of £30,000.

The Department would be accommodated on the first floor of the South wing (after removal of the Boys' School), in close proximity to the Historical School.

DEPARTMENT OF THE FINE ARTS.

[SLADE SCHOOL OF DRAWING, PAINTING, AND SCULPTURE.]

Visitor: Sir E. J. POYNTER, P.R.A.*Present Staff.*

Professor FREDERICK BROWN.

Assistant Professor: H. TONKS.

Assistant: W. RUSSELL.

Assistant Teacher of Painting: P. W. STEER.

Lecturer on Anatomy: Prof. G. D. THANE.

Lecturer on Perspective: G. THOMSON.

Professor of Architecture: Professor T. ROGER SMITH.

Special Endowments.

Slade endowment of £224 a year for Professorship.

THE Chair of Fine Art was endowed in 1870, under the will of the late Mr. Felix Slade. There are three Professorships on the same Foundation, the other two being at Oxford and Cambridge respectively, where lectures on the history or criticism of Art are delivered by the Slade Professors. At University College, the Slade Professorship has been developed more on the practical side of Art teaching; the chair has been held by Sir E. J. Poynter, P.R.A., and A. Legros. At intervals lectures have been given on the Chemistry of Painting by Professor C. Graham and C. J. Wilson, on Applied Art by H. Stannus, on the History of Art by J. H. Middleton, and on the Art of Illustration by J. Pennell. Sculpture was taught from 1893-98 by G. Frampton, A.R.A., but was discontinued owing to want of space.

This department is already well equipped and fairly endowed, but it is overcrowded and needs more space for the development of special departments such as Sculpture and Etching. Space for these can be found in the North wing when the extensions proposed have been made.

The Gallery of Casts required for the Archæological School would be available also for the Fine Art Students.

Endowments are needed for a Teacher of Sculpture and for a Lectureship in the History of Art.

For each of these a sum of £150 a year would suffice, so that the total additional endowment required by the Department is £300 a year, equivalent to a capital sum of £10,000.

DEPARTMENT OF LAWS

Present Staff and Endowments.

ROMAN LAW.

Professor A. E. MURISON, M.A., LL.B., Barrister-at-Law.

No endowment.

ENGLISH LAW.

Professor W. J. WHITTAKER, M.A., LL.B.

No endowment.

CONSTITUTIONAL LAW AND HISTORY.

Professor W. J. WHITTAKER, B.A., LL.B.

No endowment.

JURISPRUDENCE.

Professor A. F. MURISON, M.A., LL.D

No endowment.

COMPARATIVE LAW.

Quain Professor: JOHN MACDONELL, M.A., LL.D., C.B.

Quain endowment of £335 a year.

INDIAN LAW.

Professor J. W. NEILL, late Judicial Commissioner of the Central Provinces.

No endowment.

At the time of the foundation of University College there was no teaching of Law in London, nor indeed anywhere in the country. The Inns of Court required nothing more of a candidate for admission than that he should be a respectable person and should pay his fees. The College School of Law was an innovation, and it met with immediate success under the guidance of John Austin (1828–1835) and of Andrew Amos (1830–33). The teaching of the School under Amos was mainly directed to the training of men who were to become professional lawyers—such being at the time the greatest need—but the historical study of Law accompanied by research was not lost sight of.

Shortly after the foundation of the College School of Law the professional bodies began to provide legal education. In 1832 the Incorporated Law Society obtained its Charter, and its main function was to promote the legal education of articled clerks. The Inns of Court took action almost at the same time, and each Inn appointed its own Readers in certain legal subjects. As the teaching of the professional bodies became organised and efficient, the purely professional law training has gradually been transferred from the College to them. The beginning of this organisation is to be found in the report of a Select Committee of the House of Commons which bears date 1852: the result of the report was that the four Inns began to co-operate for the purpose of training their students, and that co-operation has led to the tolerably complete system of professional training that now exists.

By the action of the professional bodies the attendance at the College Law School was reduced in numbers : its work has been from 1858 mainly directed to the academic side, a field in which there was plenty of scope, but in which it was hardly to be expected that great or rapid progress was to be made. The difficulty of such a task can hardly be exaggerated when there were no endowments, and when the number of professional students who brought in fees was steadily decreasing. The position can be fairly represented by a statement of the requirements of the Law Faculty in the University of London up to 1866 : candidates for the LL.B. were tested in a knowledge of Blackstone's Commentaries and of some parts of Dumont's Bentham. That programme was changed in 1866, and the examinations of the University brought more into line with the teaching of the College. Under Mr. H. J. Roby, who was appointed to the Chair of Jurisprudence in 1865, great efforts were made to extend and develop the work, but without endowments it was impossible to maintain the lectureships and readerships that were necessary for the full development of the School. The work of the School has gone on uninterruptedly, and has been productive of good results and of independent investigation : a new impetus was given to it by the institution in 1894 of the Quain Chair of Comparative Law. The Chair of English Law has been re-instituted, and the programme of work is now fairly complete.

The organisation of a Faculty of Law is one of the tasks that await the re-constituted University : to that organisation it is to be hoped the professional bodies will largely contribute both in money and in personnel. But it is undesirable to leave the Faculty of Law entirely to these bodies, for there are branches of Law teaching and investigation that lie outside professional routine.

The Academic tradition of Law Teaching is, as has been shown, in the keeping of the College, and the College desires therefore to have its share in the organisation of the Faculty. In order to have due influence the existing Chairs should have some endowment attached to them, so as to make them permanent and the tenure of them more alluring.

The endowments that the College asks for at once for this purpose are :—

Two Chairs of English Law	£600 per annum.
One Chair of Jurisprudence and Roman Law.	£300 „

The Law sections of the College Libraries are well stocked and only require bringing up to date.

With such provision there would be ensured in the Faculty of Law an element that would have for its special province the creation of new knowledge in legal subjects, by ordering, arranging, comparing and codifying the large masses of material that are still unused, that would look beyond the needs of the professional lawyer, would deal with Law in its larger aspects and would exploit special subjects connected with Law, and so produce knowledge for the use of men who guide the destinies of the empire—both statesmen and men of business.

The capital sum required at once for the development of a Law School is £30,000.

M A T H E M A T I C S.

Present Staff and Endowments.

PURE MATHEMATICS.

Professor M. J. M. HILL, M.A., D.Sc., F.R.S., Fellow of the College, and late Fellow of St. Peter's College, Cambridge.

Assistant: H. J. HARRIS, B.A.

No endowments.

APPLIED MATHEMATICS AND MECHANICS.

Professor KARL PEARSON, M.A., LL.B., F.R.S., sometime Fellow of King's College, Cambridge.

Assistant:

No permanent endowment. The Council have assigned £200 a year out of the Goldsmid Fund for general purposes to this professorship, but this appropriation may be altered at any time by a resolution of the Council.

UNIVERSITY COLLEGE has ever since its foundation been one of the most important mathematical schools of the country. The first professor of mathematics was Augustus De Morgan who, with a short interval (1831 to 1836), held office continuously from the opening of the College in 1828 to 1867. Besides being a profound mathematician, De Morgan was a voluminous writer and a powerful and inspiring teacher. He had a remarkable gift of lucid exposition and probably did more than any man in the last century, in this country at least, to improve current methods of mathematical teaching and to substitute the intelligent study of mathematical principles for the mere acquisition of skill in performing mathematical processes. He was followed by Hirst, a pupil of Lejeune-Dirichlet, Steiner, and Chasles, whose influence did much to familiarize English mathematicians with continental methods, especially in geometry. Professor Henrici, who during the last year of Hirst's tenure of the chair had been his assistant, continued and developed this tendency. Then came Clifford, one of the most brilliant mathematical geniuses of the last generation; and Rowe, like Clifford, too early cut off from science; and lastly the present Professors, M. J. M. Hill, F.R.S., and Karl Pearson, F.R.S. It may be fairly said that the mathematical teaching of the College has throughout possessed an authority and character of its own.

At the present time the teaching is primarily given by professorial lectures, but much of the Professors' and Assistants' time is taken up in the revision of students' exercises and, especially in the case of Applied Mathematics, with instruction in drawing and the working of graphical methods of calculation and in the use of instruments. An essential and very exacting part of the Professors' work, in addition to the ordinary routine teaching, is the direction of the work of advanced pupils engaged in original investigation. This can only be done efficiently by men who have leisure for carrying on work of their own.

In order to develop the mathematical work of the College to the extent that is desirable, there should be at least two additional Professors, one dealing chiefly with pure mathematics, and one dealing chiefly with applied mathematics, and at least one additional assistant for each branch. Under the new scheme of the University of London, Astronomy is raised to an independent position, ranking with Biology or Geology as a separate science. At present the astronomy required by the University at the examination for the B.A. or B.Sc. degree has been included with other subjects in a course of lectures by the Professor of Applied Mathematics. But the intrinsic importance of the subjects as well as the academic prominence to be given to it in future, requires that a special Professorship of Astronomy should be instituted, or perhaps, as a temporary arrangement until this can be done, that a man having a first-class knowledge of astronomy should be appointed as a special assistant to the Professor of Applied Mathematics and entrusted with the teaching of Astronomy. At the present time the only advanced teaching of astronomy in London is that given by Sir Norman Lockyer at the Royal College of Science. This course is almost entirely devoted to practical physical astronomy, and especially to the astronomical application of spectrometry. There is no reason why University College should attempt to duplicate this kind of teaching, but it ought to provide fuller theoretical teaching especially in the higher branches,—the theory of errors, planetary perturbations, lunar theory, &c. An interchange of students between this College and the Royal College of Science could probably be arranged.

The annual cost of putting the Mathematical Department upon a satisfactory footing may be estimated as follows :—

<i>For stipends.</i>	£
The two existing Professors, each £300	600
Two additional Professors of Mathematics, each £300	600
Professor of Astronomy	300
Two Assistants, each £150	300
<i>For models and apparatus, say</i>	75
<hr/>	
Total sum required annually	<u>£1875</u>

The above estimate provides for setting free for general purposes (for which it is urgently required) the £200 a year now paid to the Professor of Applied Mathematics from the income of the Goldsmid Fund. By continuing this charge and by appointing an assistant at (say) £200 a year to teach Astronomy, instead of a Professor, the annual outlay might be reduced by £300.

The needful development of the astronomical teaching would require the provision of a small observatory with a small transit-instrument, clock, &c. This could probably be constructed on the roof of the College without much expense: perhaps the erection and equipment may be estimated to cost £500.

Even under the present conditions of the work of the Department of Applied Mathematics, a room is urgently needed for the use of advanced and research students and for assistants and demonstrators. At present the only room available for research students is a small room intended as an instrument-room and much needed for that purpose; assistants at present share the use of his private room with the Professor.

For many years the need of a Mechanical Laboratory has been getting more and more evident. This is a matter of great importance not only to students of applied mathematics, but also to students of physics and engineering. What is required is a room fitted with proper appliances for experiments which would teach students to appreciate physically such fundamental ideas as force, energy, momentum, moment of momentum, stress, precession, &c. Whether, when such a laboratory is provided, it should be connected primarily with the Department of Applied Mathematics or with that of Physics may be a matter for future consideration. Both departments are intimately interested in the teaching it would afford; it is also urgently required as part of the preliminary training of Engineering students. A new lecture-room is required for Graphics and Engineering, so as to leave the present lecture-room available for the proposed laboratory. The lecture-room is ill-adapted for its present purpose from want of proper ventilation, the noise from the street making it impossible to keep the windows open.

The cost of the additional accommodation required is included in the sum put down to provide for Engineering and allied branches, viz. £20,000.

The capital sum necessary for the permanent endowment of the teaching staff (£1800 a year) is £60,000.

PHYSICS.

Present Staff.

Professor H. L. CALLENDAR, M.A., F.R.S., LL.D. (McGill), sometime Fellow of Trinity College, Cambridge.

Assistant Professor: ALFRED W. PORTER, B.Sc., Fellow of the College.

Demonstrator: N. EUMORFOPOULOS, B.Sc., Fellow of the College.

Endowment.

The Professor of Physics has an endowment of £300 a year from the Quain Fund. This is assigned for a period of seven years, but is renewable at the discretion of the Council. There is also an allowance from the same fund of £200 a year for expenses, more than half of which goes to pay a mechanical assistant.

At the opening of the College, the Rev. Dr. Dionysius Lardner was appointed Professor of Natural Philosophy and Astronomy. He was a brilliant lecturer and voluminous writer. He rendered good service to learning as the editor of the *Encyclopædia Metropolitana*, a series which comprised many works of authority on history, philosophy, and science. Lardner himself was the author of several text-books on mathematics and natural philosophy which, in their day, were largely circulated and had considerable educational value.

Lardner was succeeded in 1831 by the Rev. William Ritchie, who was an active experimentalist and did good work in electro-magnetism, radiant heat, and other subjects. He held office till his death in 1837.

The next professor was J. J. Sylvester (1837 to 1841), who, though unsurpassed as a pure mathematician, was probably never greatly interested in the experimental part of his work. He was followed by Richard Potter, a high Cambridge wrangler. After holding the professorship for two years, Potter resigned in 1842 in order to accept a similar appointment at Toronto, and Charles Brooke was appointed to the Chair. Brooke is chiefly known in connexion with the application of self-registering methods to magnetic and meteorological instruments, and as the editor of several editions of Golding Bird's excellent Treatise on Natural Philosophy. He resigned his professorship in 1844, when the College Council induced Professor Potter to come back from Toronto and accept reappointment. This time he retained it for twenty-one years, till 1865. However good a teacher he may have been in the earlier part of his career, in the latter part Potter hardly did justice to the modern developments of his science. Matters of fundamental importance like the mechanical theory of heat, methods of absolute measurement in magnetism and electricity, and much modern work, both experimental and mathematical, found no place in his lectures. Upon his resignation, the Council, wishing to widen the range of the teaching in this subject, and perhaps following the advice of those who chiefly had continental methods and nomenclature in their minds, decided to make a double appointment, at the same time altering the name of the subject to be taught. They elected T. Archer Hirst (already mentioned under MATHEMATICS) Professor of Mathematical Physics, and G. Carey Foster Professor of Experimental Physics. In the following year De Morgan resigned the Chair of Mathematics, and Hirst was appointed to succeed him with the title of Professor of Pure and Applied Mathematics. He soon found that the work in pure mathematics was sufficient for his strength, and a rearrangement of duties became necessary. Beginning with the Session 1867-68, Hirst became Professor of Pure Mathematics, the more purely physical part of his

previous work was assigned to Foster, the title of whose Chair was changed from Experimental Physics to Physics, and the more specially mathematical part, together with the teaching in Applied Mechanics required by engineering students, was assigned to a new Chair of Applied Mathematics and Mechanics.

Carey Foster retained his professorship for thirty-three years, till 1898. In this period not only did the science of Physics undergo enormous development and extension, but the methods of teaching and study underwent very great change. In 1865 teaching was purely oral, and so far as it was experimental, the experiments were made entirely by the professor. In 1866, Foster opened the first Physical Laboratory for students in Britain south of the Tweed. The available space was small and the instrumental appliances most meagre, but the attempt was at least a recognition of the direction which physical teaching ought to take, and it was possible as time went on gradually to enlarge the laboratory and improve the equipment. The rooms to which the physical department was transferred in 1893 constituted at the time the best physical laboratory in London, possibly in England.

So great, however, has been the development of the science, and so important and varied its applications, that already considerable extensions of the Department are required.

In the first place, it is now hardly possible for one Professor to do equal justice to all parts of the subject—Heat, Light, Electricity, Magnetism, &c., at any rate so far as advanced work is concerned. It is moreover of the highest importance that the heads of the department should be able to devote the greater part of their time to research and the superintendence of research in the work for which they are fitted by their special attainments, and this can only be accomplished by the provision of capable junior teachers (lecturers and assistants) who can undertake the greater portion of the elementary work.

The following extensions of the Department are therefore proposed :—

A. *Staff*.

An additional Professor at £300 a year.

A Lecturer for elementary students at . . £200 a year.

An additional Demonstrator at £150 a year.

B. The *Physical Laboratory* requires enlargement especially to provide facilities for Research.

At the present time the Professor has no space for this purpose apart from that appropriated to the use of students. Several additional rooms are required for special purposes, such as experiments on heat and other of the more refined observations. This additional accommodation can be provided by building another story to the present Physical building, and also extending the department into the basement of the main (East) wing. The total cost of these alterations and additions, with a proper equipment of the entire laboratory, would not exceed £10,000.

C. *Maintenance*.—The present grant is even now inadequate for the maintenance of the Department and the purchase of apparatus. For this purpose an additional endowment of £300 a year is required.

The total sum required for enlarging and endowing the Physical Department is therefore :—

Staff £22,000.

Laboratory and Maintenance . . £20,000.

Total Capital Sum . . . £42,000.

CHEMISTRY.

Present Staff.

Professor W. RAMSAY, Ph.D., LL.D., Sc.D., F.R.S.

Assistant Professors: MORRIS W. TRAVERS, D.Sc., Fellow of the College.

E. C. C. BALY, F.I.C.

F. G. DONNAN, M.A., Ph.D.

Special Endowments and Benefactions.

No endowments.

In 1841 a sum of £770 was raised by subscription towards the building of the Birkbeck Laboratory of Practical Chemistry, in memory of Dr. Birkbeck.

From the foundation of the College, the department of Chemistry has played a prominent part in the development of the subject. The laboratory was one of the first, if not the first, open to students for practical work; its professors, men who have left an abiding impression on their science. Edward Turner, who was professor from the foundation of the College till 1837, was succeeded by Thomas Graham, whose investigations, relating chiefly to the domain of what is now known as physical chemistry, not only serve as classical examples but afford a starting point for very many researches of the present day.

In 1856 Graham resigned his chair, on being appointed Master of the Mint. He was succeeded by A. W. Williamson, who had been Professor of Practical Chemistry since 1848. Williamson is known chiefly by his classical memoir on "etherification and the constitution of salts," which had an enormous influence in modifying the accepted chemical theories of the time. In 1887 Williamson retired with the rank of Emeritus Professor, and was succeeded by the present holder of the chair, W. Ramsay, who is known specially for his researches in physical chemistry, and for his discoveries of the new elements, argon, helium, crypton, and xenon, as the rarer gases of the atmosphere.

In 1845 the Birkbeck Laboratory was opened as a laboratory for Practical Chemistry under the direction of Professor George Fownes, F.R.S. It was built on the general plan of the famous laboratory of Justus von Liebig at Giessen, and was the first laboratory in this country designed and built for the practical instruction of students. In 1878 the Chemical department was extended by the appointment of Dr. Charles Graham to be Professor of Chemical Technology. For some time previously Dr. Graham had been Assistant Professor of Chemistry, and his reputation in connexion with various departments of Applied Chemistry—the Chemistry of Brewing in particular—attracted many students to the College. When the North wing was completed, the department of General Chemistry was removed to the basement of this wing. The Birkbeck Laboratory remained until Graham's retirement in 1889 as a laboratory of Applied Chemistry, and was enlarged partly at Dr. Graham's expense. Subsequently, Dr. Watson Smith was from 1890 to 1893 Lecturer on Chemical Technology. The present accommodation includes a large laboratory for students of chemistry, a class-room, recently fitted up at the cost of members of the medical staff, for medical students, and about six small rooms for the professor and his assistants. This accommodation is quite insufficient for the present needs of the department. The laboratory is always full, and there is not enough space to take in all who apply for admission as students. A development and differentiation of the whole department, including both staff and laboratories, is urgently required. The following alterations have therefore been decided on, as soon as sufficient funds are available.

The Staff to consist as follows :—

One Professor of Chemistry, with the title of “ Director of the Chemical Laboratories,” who will give the general course of lectures on Inorganic Chemistry and Elementary Organic Chemistry.

A Professor of Organic Chemistry, who would give advanced lectures as well as superintend research in this subject.

A Professor of Physical Chemistry.

The Professor-Director would require three Demonstrators to superintend class work and look after the regular laboratory students who are engaged in quantitative work and organic preparations.

The Professors of Organic Chemistry and of Physical Chemistry would each require one Demonstrator.

No provision in this plan is made for the teaching of medical students. Since however the chemistry needed by medical students is elementary, the fees received from students would suffice for the maintenance of the teaching of this branch of work.

The Department, thus enlarged in accordance with the present requirements of chemical training, will need at least four times as much space as it has at present. It could be provided with worthy accommodation by allotting to it the basement and ground-floor of the proposed new North-west wing (*vide* Plans 1 and 2). Besides the practical class-room for medical students (for which the present rooms might be utilised) two large laboratories would be required for junior and senior students, laboratories for advanced students in organic and physical chemistry, research laboratories in inorganic, organic and physical chemistry, besides special rooms for balances, gas analysis, combustions and distillations, spectroscopic work, work at low temperatures and on liquefaction of gases, engines, and all the minutiae that make for success in modern chemical research.

Estimated Cost of Development of Chemical Department :—

The building and equipment of a Chemical Institute, to form the two lower floors of the North-west wing with consequential alterations in the old department, would cost £40,000.

For the maintenance of the department an endowment of at least £600* a year should be available for expenses. This is equivalent to a further capital sum of £20,000.

For the Staff the following endowments are required :—

Professor-Director	£300 a year =	Capital sum of	£10,000.
Professor of Organic Chemistry	£300 „ = „ „		£10,000.
Professor of Physical Chemistry	£300 „ = „ „		£10,000.
Five Demonstrators at . . .	£200 „ = „ „		£30,000.

Thus the total sums required are :—

- (a) £60,000 for building and maintenance.
- (b) £60,000 for endowment of Staff.

* The yearly grant to the Berlin Chemical Laboratory (Prof. Fischer) is over £1600, to that of Prof. Wislicenus in Leipzig is nearly £1000.

GEOLOGY.

Staff.

Professor E. J. GARWOOD, M.A.

Special Endowments and Benefactions.

Yates-Goldschmid endowment of professorship, £285 a year.

UNTIL recently Geology offered few attractions to anyone wishing to follow science as a profession, though it is of fundamental importance both to engineers and in its bearings on the various mining industries, &c. The methods of study in scientific Geology have undergone of late years considerable developments, of which may be mentioned especially the microscopic investigation of minerals and fossil structures—a mode of research closely connected with the activity of the late Professor, the Rev. T. G. Bonney, F.R.S.

The provision for the subject at University College is far behind present requirements, and lack of funds has hitherto prevented more facilities being found for its study. At most Universities, three or four teachers are employed in imparting instruction in the various branches of the subject:—Petrology, Stratigraphical Geology, Palæontology, Economic Geology &c., and no one man can satisfactorily represent all these branches.

The accommodation for Geology at the College is limited at present to one room, and there is no yearly grant for service, for purchase of specimens or cases, nor for assistants. A considerable enlargement of the department is therefore urgently required.

Space for the laboratories, museum and lecture-room could be provided by completing the southern half of the West wing, and devoting the second floor to Geology. The building and proper equipment of this floor would cost £10,000. The upkeep of the department would involve an annual expense of £300 a year, corresponding to a capital sum of £10,000.

The Staff would also have to be increased, in order to make the teaching of the subject complete. To this end it is desired to appoint two lecturers at £200 a year each, viz.:—

Lecturer on Petrology at £200.

Lecturer on Palæontology at £200.

These could be provided by the interest on a capital sum of £15,000.

To develop the Department of Geology, the following sums are therefore necessary:—

New Department	£10,000.
Endowment for Expenses	£10,000.
Additional Lecturers	£15,000.
Total sum required	£35,000.

B O T A N Y.

Present Staff.

Professor F. W. OLIVER, M.A., D.Sc., Fellow of the College.

Assistant Professor: A. G. TANSLEY, M.A., Fellow of the College.

Assistant: W. C. WORSDELL, F.L.S.

Quain Student: EDITH CHICK, B.Sc.

Special Endowments.

Quain Professorship, £300 a year.

Quain Studentship, £100 a year.

At the time of the establishment of University College, Botany occupied a position in the academic curriculum very different from that accorded it at the present day; it was regarded chiefly as a necessary preliminary to the study of *Materia Medica* for medical students. Until about 20 years ago instruction in Botany was almost entirely confined to the lecture-room. In 1879 definite laboratory courses were established under the supervision of F. Orpen Bower, and at the present time Botany, with its subdivisions into systematic, physiological, and morphological botany, is a serious pursuit, of equal rank with the older sciences of physics and chemistry and necessitating the continuous activity of a number of specialists. Indeed one of its departments, Bacteriology, has been elevated to the status of a separate science, so great and important are its bearings on industrial processes as well as on disease. The knowledge of the life-history and vital processes both of the higher and lower forms of plants has proved and is proving of greater economic importance every day in the arts of forestry and agriculture.

Owing, however, to the comparatively recent development of the subject, the accommodation provided for its study in the College is scattered and inadequate, comprising part of the old Birkbeck Laboratory, a laboratory cut off from the north corridor, a lecture-room at the south end, and a room for research behind the Medical Theatre. The site of the Birkbeck Laboratory is urgently required for the extension of the Anatomical Department. If the Boys' School were removed, sufficient space could be found for the department by allotting to it the whole of the 2nd floor of the South wing, which would of course require extensive internal modification. Here, besides adequate class-rooms for junior and senior students, could be provided laboratories specially fitted for research into the physiology and morphology of plants (including the increasingly important branch of palæo-botany), whilst adequate space would be available for herbarium collections as well as for the proper display of the rich collections of material already possessed by the department.

These changes would cost about £15,000, of which £10,000 would be applied to finding other accommodation for the part of the School occupying this floor, and £5000 to the constructional alterations (including fittings) required for the new Institute. For the maintenance of the Department, an additional sum of £450 a year would be necessary, *i. e.* an additional capital sum of £15,000.

The STAFF of the Department would also require modification. Although assisted by the Quain Fund, which supplies an endowment for the Professor as well as a studentship,

there is no provision at present for the Assistant-Professor, or for the advanced teachers in special branches necessitated by the recent growth of the subject.

The additional endowments required for these purposes are as follows :—

Assistant-Professor	£200 a year.
Lecturer on Morphology	£200 „
Lecturer on Vegetable Physiology	£200 „

(The two Lecturers would give only advanced lectures, their chief function being to conduct research in their respective subjects.)

This £600 a year could be provided by the investment of a capital sum of £20,000.

Thus the Department as a whole needs £30,000 for buildings and maintenance, and £20,000 for the additional Staff required, or *a total sum of £50,000.*

ZOOLOGY AND COMPARATIVE ANATOMY.

Present Staff.

Jodrell Professor: E. A. MINCHIN, M.A., late Fellow of Merton College, Oxford.

Assistant Professor: E. WARREN, D.Sc., Fellow of the College.

Demonstrator: H. M. WOODCOCK.

Special Endowment and Benefactions.

Jodrell Endowment of £240 a year for the Professorship.

THE Department consists of a Museum, Lecture-Room, and private room on the first floor of the east end of the North wing, and a practical class-room, and two small research-rooms on the second floor. The nucleus of the Museum was furnished by the collections of Professor Grant, the first Professor, and was entirely refitted and rearranged in 1875-76, under the direction of Professor Lankester. The material is well selected and displayed, and admirably adapted for its purpose as a teaching collection, though its growth is hampered by lack of sufficient funds. The rest of the department, however, is very inadequate, and the contrast between the mass of good work that has been turned out in the laboratory and the deficiencies of the latter is a striking testimony to the spirit in which the successive professors have made the most of the scanty opportunities at their disposal.

As in other departments, the need here is of growth and differentiation, with adequate provision for assistants, so as to free the Professor from a large part of the elementary teaching and to enable him to devote more time to the carrying out and superintendence of research work. The special subjects of Vertebrate Morphology and Embryology should be converted into subdepartments, each with special lecturer and laboratory.

The requirements of the Department may be stated summarily as follows :—

Laboratory.—The Laboratory should be extended in both directions on the upper floor of the North wing, taking part of the upper floor of the anatomical extension (Plan No. 4) for Vertebrate Morphology, and also that part of this floor which will be vacated by the provision of new physiological laboratories. The present class-room, which is ill-adapted for the purpose and has insufficient space and lighting, would be thrown into the Library (the present Anatomical Museum). These changes, with the fitting-up of the new rooms provided, are estimated to cost £5000. The smallness of this sum is of course contingent on sufficient money being raised to provide for the accommodation of the displaced departments elsewhere (new West wing).

In order to provide the increased service and material for research, an increase in the present grant by £300 would be necessary, and this sum could not be obtained from students' fees. An endowment, therefore, of £10,000 is necessary for maintenance of the Department.

STAFF. The following increase in the Staff is necessary :—

A Lecturer on Embryology at £200 a year.

A Lecturer on Vertebrate Morphology at £200 a year.

An Assistant to the Professor at £200 a year.

Making a total of £600 a year, equivalent to a capital sum of £20,000.

The total sum therefore required for developing the Department in accordance with its needs is :—

New laboratories	£5000
Fund for maintenance	£10,000
Endowment of additional teaching staff	£20,000

Total £35,000

ANATOMY.

Present Staff.

Professor G. D. THANE.

Demonstrators : G. B. M. WHITE, M.B., B.S., F.R.C.S.

W. B. L. TROTTER, M.D., B.S., F.R.C.S.

Special Endowments and Benefactions. None.

THE Department of Anatomy has existed since the foundation of the College in 1828, and its Professors have been intimately associated with the advance of anatomical knowledge in this country. The former holders of the Chair of Anatomy have been as follows :

J. R. Bennett	1828-1831.
Jones Quain, M.D.	1831-1836.
Richard Quain, F.R.S.	1832-1850.
G. Viner Ellis	1848-1877.

The department includes a lecture-theatre, dissecting-room, demonstration-theatre, and a museum (this being shared with Pathology). The different parts, however, are separated from one another and not easy of access. Moreover, there is no accommodation for research work, and the department as a whole is not to be compared with the anatomical institute of a third-rate German University. No endowment is attached to the professorship, so that far too large a proportion of the Professor's time has to be devoted to elementary teaching. If the teaching of Anatomy is to be developed along University lines, considerable alterations must be effected in this department, involving increase of staff as well as of accommodation.

The following alterations are necessary :—

Staff.—The Professorship should be placed on the same footing as other professorships and receive an endowment of £300 a year, thus setting free the grant made by the Council from the general Funds, which is much needed for other purposes.

Two endowed Demonstratorships should be founded of £200 a year each, the holders of which should devote their whole time to their work, including the carrying out and superintendence of research.

Accommodation.—It is proposed to replace the present scattered and inadequate accommodation by an Anatomical Institute, which would be formed by *rebuilding* the eastern extremity of the North wing, and would take in the present Anatomical Department as well as the Birkbeck laboratories (now devoted to Pathology and Botany). In this Institute, besides theatre, dissecting and class rooms, it is proposed to place the anatomical museum and research laboratories, in order to free the present museum for the purposes of a Library.

For the maintenance of this Department a yearly sum of £500 is required.

The total sum for the erection and maintenance of the Department of Anatomy is therefore :—

Building, £15,000 ;

Provision for Staff and expenses, £1200 a year, or a capital sum of £40,000.

Making a total of £55,000.

PHYSIOLOGY.

Present Staff.

Jodrell Professor : ERNEST H. STARLING, M.D., B.S., F.R.C.P., F.R.S.

Assistants : W. M. BAYLISS, M.A., D.Sc. (Oxon.), B.Sc. (Lond.).

W. A. OSBORNE, M.B., D.Sc. (Tübingen) (Sharpey Scholar).

Special Endowments and Benefactions.

MR. T. J. P. JODRELL :—A sum of £7500 for endowment of Professor (1874)—£500 for purchase of apparatus, and £1000 to general Building Fund.

SHARPEY Scholarship Fund (about £105 a year).

To University College belongs the credit of having in this country initiated the separation of the teaching of Physiology from that of Human Anatomy, by the institution of a separate Chair for each subject, the holders of which are expected to devote their whole time to the duties of their respective Chairs. Other Universities and Colleges have, after a long interval, followed this example, the necessity of which is apparent to any who are conversant with the intricacy of these subjects and the rapidity of progress of modern physiological research. The first occupant of the Chair of Physiology was William Sharpey, who was Professor in this College from 1836 to 1874. Sharpey's fame as a teacher of Physiology remains to this day, and some of the most prominent English physiologists received their early training in the science at his hands. A few years prior to his retirement, which was signalled by the institution of the Sharpey Research Scholarship, a separate chair was instituted for Practical Physiology, which was occupied successively by George Harley, Michael Foster, and Burdon Sanderson. Michael Foster was called to Cambridge in 1870, where he ultimately was made Professor of Physiology, and where, mainly through his efforts, an important school of morphology and physiology has since been established. Burdon Sanderson succeeded Sharpey in 1874, on the establishment of the Jodrell Professorship of Physiology, when the Chairs of Theoretical and Practical Physiology became united, and the combined Chair was occupied by him until 1883, when he accepted an invitation to become the first occupant of the newly-instituted Waynflete Professorship at Oxford. Here he was instrumental in founding another important school of physiology, which is now presided over by Professor F. Gotch, who also received his training in physiology at this College. Burdon Sanderson was succeeded in the Jodrell Chair in 1883 by E. A. Schäfer, who had already been associated, at first as Assistant and Sharpey Scholar and afterwards as Assistant-Professor, with the teaching and work of the Chair during twelve years. The present Professor was appointed in 1899, in consequence of the appointment of E. A. Schäfer to the Chair of Physiology at Edinburgh.

The present laboratory of Physiology comprises a suite of eleven rooms, one of them a lecture-room, and occupies the uppermost floor of the North wing. It is perhaps better fitted up for research and higher teaching than any other laboratory in London, and would be quite adequate for a small medical school. It is, however, quite insufficient for the present number of students and workers. Moreover, under the heading of physiology are included, in this country, the subjects of histology (microscopic anatomy) and physiological chemistry, as well as physiology proper, subjects which in most Universities abroad have each their special

Professor and department. Since each demands the entire attention of one man, it is eminently desirable that the Department of Physiology be enlarged, special provision being made for these two subjects.

It is proposed that the enlarged Department should consist as follows :—

- Personnel* : Professor-Director of Physiology. (Jodrell Endowment.)
 Professor of Histology. (£300.)
 Professor of Physiological Chemistry. (£300.)
 Four Lecturers on special branches of Physiology, at £50 each. (£200.)
 An Assistant to each Professor, at £200 each. (£600.)

Growing classes would necessitate the appointment of other junior assistants. Their salaries could, however, be met out of students' fees.

Laboratory Accommodation.—This will occupy the second floor and part of the first floor of the new North-west wing, the subdepartments being arranged as follows :—

HISTOLOGY at the North end of the new wing, and in part of the floor already occupied by the department. The rest of the present Physiological Department could then be modified for the new Pharmacological Department. Histology would thus be in close proximity to the allied sciences of Zoology and Human Anatomy, and could be elevated later to the rank of an independent department.

PHYSIOLOGY proper would occupy the rest of the upper floor of the new wing.

PHYSIOLOGICAL CHEMISTRY would take up about one-half of the second floor, the other half being devoted to Pathological Chemistry, a subject which is growing daily in practical importance.

For the maintenance of these Laboratories, for the purchase of materials and payment of servants, a sum of £500 a year would be needed, in addition to what could be provided from the College share of fees.

Such an enlargement and differentiation of the department will not only add largely to the opportunities for research into the workings of the animal body, the foundation of all medicine, but will render it possible for the University of London to commence the concentration of early medical studies under its own guidance—a reform in medical education which has been indicated as urgent by the Statutory Commissioners in their Report on the New Statutes of the University of London.

The total sum required for this development is as follows :—

- Endowment for teaching staff, £1400 a year ; = a capital sum of £45,000.
 Building and equipment of new Laboratories, £30,000.
 Maintenance of Laboratories, £500 a year* ; = a capital sum of about £20,000.
Total Capital Sum required £95,000.

* The Physiological Institute at Berlin (Prof. Engelmann) receives an annual grant of over £2000 for expenses.

PHARMACOLOGY.

PHARMACOLOGY, or the science of the Action of Drugs, has hitherto been rather neglected in this country. There is no special Professorship at University College for this subject, which is included with *Materia Medica*, and taught by the Professor of *Materia Medica* and Therapeutics. The science, which is the foundation of Therapeutics or treatment of disease, is however essentially experimental. Only by experiment can we ascertain the composition of drugs, extract the active principles from new remedies, and test their action on the animal body. A proper study of Pharmacology is therefore essential to medical progress, and is impossible without the provision of special Pharmacological Laboratories, equipped for research along chemical as along experimental lines. It is proposed, therefore, to devote the greater portion of the present Physiological Department to the purposes of a Pharmacological Institute, consisting of a lecture-room, and a series of laboratories for the various modes of research. The cost of this Institute may be reckoned at £5000. For the maintenance of the department a sum of at least £300 a year is necessary; and a further sum of £300 a year is required for the endowment of a Professorship in Pharmacology.

The total cost, therefore, of founding and endowing an Institute for Teaching and Research in Pharmacology amounts to £25,000.

PATHOLOGY.

*Present Staff.***PATHOLOGY AND MORBID ANATOMY.**

Professor SIDNEY H. C. MARTIN, M.D., F.R.S., Fellow of the College.

Assistant: D. N. NABARRO, M.D., B.Sc., Fellow of the College.

PATHOLOGICAL CHEMISTRY.

Professor VAUGHAN HARLEY, M.D., M.R.C.P.

Assistant Professor: F. W. GOODBODY, M.D., M.R.C.P.

Special Endowments and Benefactions. None.

PATHOLOGY has been taught in the College since its foundation, but for a long time this subject included only gross Morbid Anatomy. Early in the eighties Morbid Histology was introduced into the course, and in 1887 a course of Bacteriology was initiated. In 1896 the Council instituted a separate Chair of Pathological Chemistry, in view of the great importance of the subject and its ever-increasing bearings on Medicine on the one hand and Physiological Chemistry on the other.

Former Professors of Pathology and Morbid Anatomy:—

Sir Robert Carswell, M.D.	1828-1840.
Walter Hayle Walshe, M.D.	1841-1848.
Sir William Jenner, Bart., G.C.B., F.R.S.	1849-1861.
Wilson Fox, M.D., F.R.S.	1861-1867.
H. Charlton Bastian, M.A., M.D., F.R.S.	1867-1887.
Victor A. H. Horsley, F.R.S.	1887-1896.

Pathology includes the whole science of Disease, and the investigation of its causes and conditions. It is therefore the only foundation of scientific medicine, and it is only by advance in Pathology that we can attain any success in the treatment of disease. The immense development of modern Pathology is due largely to the growth of the sciences on which it rests—chemistry, physiology, histology, bacteriology. Each of these “preliminary and early medical studies” furnishes the pathologist with distinct methods for attacking the problems of disease. Hence in any properly equipped Pathological Institute all these branches must be represented by men who have a special knowledge of the methods of the several sciences, and must possess laboratories fitted for research along these four lines. From this point of view—namely, as a school for research into the causation of disease—the provision made for Pathology in University College is quite inadequate, and requires extension both of laboratories and staff.

The space at present occupied by this department in the Birkbeck Laboratory is required for the extension of the Anatomical Department. The close connection of Pathology with Medicine and Surgery indicates the advisability of retaining an association of these subjects in any alterations that may take place. It is therefore proposed to place the Pathological Laboratories in the same building with the other advanced medical studies (Plan No. 2, Medical), and erect there a series of Laboratories in which ample space may be available for education and research in the various departments of Pathology. For this purpose a sum of £20,000 is required. In close proximity to the Institute would be the Pathological Museum,

containing and displaying the rich store of material contained in the present museum. The erection of the museum would cost £5000. It is estimated that the maintenance of the department and museum would require an endowment of £500 a year.

The Staff also requires reorganisation. The subject demands the whole attention of any man who is engaged in its pursuit, and endowed Professorships are therefore urgently required to enable the holders of them to give up their whole time to teaching and research in Pathology. To this end the following endowments are necessary :—

Professor-Director	£300 a year.
Three Assistant Professors, at £200 a year each =	£600 „
Three Assistants, at £200 a year =	£600 „
Curator of Museum	£300 „

The total endowment for Staff required is therefore £1800 a year, or a capital sum of £60,000.

The Department of Pathological Chemistry, if retained as a separate department, might be accommodated with Physiological Chemistry in the first floor of the proposed West wing. In this case the only endowments necessary would be

- (a) £300 a year for a Professor ; and
- (b) £300 a year for departmental expenses.

It is hopeless to expect that real advances in the science of Disease—such as cancer, tubercle, rheumatism, diabetes—can be made in England while laboratories are wanting and no provision is made for men who are willing to spend their lives in pathological research. Only by founding Pathological Institutes on the lines mentioned above can we hope to achieve success in our mastery of disease.

MEDICAL JURISPRUDENCE.

THIS subject is of importance both from a legal and from a medical standpoint, and therefore it is highly desirable to offer such inducements in the way of endowment and appliances as would tempt men to make this subject their life-study. For a Chair of Medical Jurisprudence the following provision is required :—

- An endowment for the Professor of £300 a year.
- A Laboratory and Museum, at the approximate cost of £5000.
- An endowment for departmental expenses of £200 a year.

The total cost of founding such a department would therefore amount to about £22,000.

ENGINEERING.

*Present Staff.***MECHANICAL ENGINEERING.**

Professor J. D. CORMACK, B.Sc.

Assistants : E. M. EDEN, A.M.I.C.E. ; E. SPRAGUE, A.M.I.C.E. ; H. PAYNE, A.M.I.C.E.

CIVIL ENGINEERING.

Professor I. F. VERNON-HARCOURT, M.A., M.I.C.E.

Assistant : M. T. ORMSBY.

ELECTRICAL ENGINEERING.

Professor J. A. FLEMING, M.A., D.Sc., F.R.S., Fellow of the College, sometime Fellow of St. John's College, Cambridge.

Demonstrator : W. C. CLINTON, B.Sc., A.M.I.C.E.

MUNICIPAL ENGINEERING.

Professor OSBERT CHADWICK, C.M.G., M.I.C.E., M.I.M.E.

Lecturer : R. MIDDLETON, M.I.C.E.

Assistant : M. T. ORMSBY.

Endowments.—No permanent endowments are attached to any of the engineering professorships, but for several years past the Departments of Mechanical Engineering and Electrical Engineering have each received a grant of £400 out of a sum £1500 that has been paid yearly to the College by the Technical Education Board of the London County Council, and these grants have been devoted to the payment of assistants and the purchase or renewal of apparatus. The continuance of this grant depends on the policy of the Technical Education Board who have no power to make it permanent, even if they thought it desirable to do so. The condition is also attached to it that the Council should grant free admission to classes in the College to a certain number of students nominated by the Board. The income of the Pender Memorial Fund (about £140 a year) and that of the De Moleyns Fund (about £15) are appropriated for the purchase of instruments and apparatus for the department of Electrical Engineering. The trustees of the late Sir Edwin Chadwick have made a grant of £600 a year for two periods of three years (and it is to be hoped they will continue this grant in the future), for the payment of a Professor and Lecturer on Municipal Engineering. They have also made very useful gifts for apparatus to the departments of Mechanical and Civil Engineering.

Historical Sketch.—The teaching of the scientific principles of Engineering was contemplated from the earliest days of the College. Mr. J. Millington was appointed in 1828 Professor of Engineering and the Application of Mechanical Philosophy to the Arts, but it does not appear that he formed a class. Special courses on Civil Engineering were given in connection with the Chair of Natural Philosophy when that chair was held by Dr. Ritchie, and again during the professorship of Sylvester (see PHYSICS). In 1840, C. B. Vignoles, who was for many years one of the acknowledged leaders of the profession, was appointed Professor of Civil Engineering. He held the chair for three years, and was succeeded (with an interval of

a year) by Harman Lewis (1844 to 1858). A little later the provision for the teaching of engineering was greatly extended by the appointment of Bennet Woodcroft in 1846 to be Professor of Machinery, and of Eaton Hodgkinson in 1847 to be Professor of the Mechanical Principles of Engineering. Eaton Hodgkinson's is one of the classical names in the history of engineering research, and many of his well-known experiments on the strength of materials were made in University College. No direct successor to Hodgkinson was appointed on his death in 1861, though his special subject was revived later in another form. Woodcroft resigned in 1852, and in his case again no immediate successor was appointed though the name of his chair was retained for several years on the list of the College Professorships, with the note "Professorship vacant," thus showing the importance which the Council attached to the subject.

Harman Lewis was succeeded in 1859 as Professor of Civil Engineering by William Pole, who was not only a very eminent engineer but was remarkable for the extent and variety of his attainments in other departments of knowledge: in particular, he was one of the most learned musicians of his time and country. Pole was followed by Fleeming Jenkin in 1866. When, a year later, Jenkin was drawn away to the more lucrative chair of Engineering in the University of Edinburgh, George Fuller was appointed at University College as Professor of Civil and Mechanical Engineering. From this time, and especially under Professor A. B. W. Kennedy, who succeeded Fuller in 1874, the teaching of mechanical engineering in the College gradually became more prominent. During Fuller's tenure of the chair, the importance of making laboratory training a prominent part of a College course of engineering instruction had been strongly urged on members of the Faculty of Science by Mr. Dwelshauvers-Déry, a distinguished Professor of Liège, and Professor Fuller had accordingly prepared designs for a testing-machine adapted for experiments on the properties of engineering materials. Want of funds, however, stopped the way of further progress, and it was not till the session 1878-79 that the Engineering Laboratory of the College—the first one in this country—was opened, and Kennedy began the system of laboratory teaching which he gradually extended and systematised and which, in its essential features, has since been adopted in every important engineering school in the kingdom. The chief steps in the subsequent development of the Engineering School of the College are marked by the change of the title of the Professorship to Engineering and Mechanical Technology in 1879, the appointment of Mr. L. F. Vernon-Harcourt in 1882 to be Professor of Civil Engineering, and of Dr. J. A. Fleming in 1885 to be the first Professor of Electrical Engineering, the appointment of Mr. T. Hudson Beare in 1889 to succeed Kennedy, that of Mr. Osbert Chadwick in 1898 to be Professor of Municipal Engineering, and the resignation in the present year of Professor Beare (who, like his distinguished predecessor Fleeming Jenkin, has succeeded to the Edinburgh chair) and the election of Mr. J. D. Cormack to succeed him in University College as Professor of Mechanical Engineering.

Requisite Extension.—All the branches of the Engineering Department need additional accommodation, which might be provided by completing the South-west wing and by making use of some parts of the South Wing, now occupied by the Boys' School. In the mechanical and electrical departments more laboratory space is required, especially for advanced work and research, and for all departments more drawing-office accommodation is wanted. Even

with the present number of students much time is lost through different sets of students having to use the same tables and drawings that are in progress having consequently to be displaced to make room for others. It is much to be desired that each student should have his own table where his drawings might remain undisturbed and he could go and work at them whenever he was free to do so.

In electrical engineering especially the provision of the most perfect means of training young men who are to devote themselves to the profession is a matter of vital national importance. Enormous as has been the growth of electrical industries already, it is certain that we are as yet only at the beginning of their development. It is just twenty years since the electric transmission of power may be said to have been publicly inaugurated, at the Electrical Exhibition in Paris in 1881. It cannot be doubted that the advance in the practical employment of electricity will be even greater in the next twenty years than in the last, but the share of this country in the coming advance will depend on the education of its young engineers and their capacity for dealing intelligently and effectively with the new problems that are continually arising. And this means that they must have been thoroughly trained in the methods of physical research. Progress is too rapid for even the most comprehensive knowledge of the methods that have been found effectual in the past to be of much service. The successes of the future will be for those who, besides knowing how to profit by the experience of the past, can recognize the practical import of each new discovery and can find their own way among new problems and new difficulties by clearly planned systematic experiment. That is to say, our schools of electrical engineering must be schools of scientific research. Already the liberal provision for the advanced education of engineers that is made in America and Germany is giving to those countries a large share in the electrical engineering business of Great Britain. German and American firms are being entrusted with important contracts and large numbers of young engineers from these countries are obtaining employment here. The writer has lately been allowed to read a report on the visit paid by members of the Institution of Electrical Engineers in June last to their colleagues in Berlin and other German towns, which was prepared by a young English electrical engineer for his employers. From this report it appears that what most impressed the author, after the enormous scale of the works that he visited, was the perfection of organisation and the appearance that every process had been systematically thought out and was put into operation as the result of scientific foresight. The author says that if any of his companions at starting on their journey wondered how it was that Germans managed to compete with Englishmen in this country, they must have wondered when they came back how it was possible for Englishmen to compete with Germans.*

Increased teaching power as well as more space and more ample appliances are required to enable University College to do its share of this necessary work.

* Since the above was written, the following passage has appeared in an address delivered by Major P. A. MacMahon, F.R.S., as President of the Mathematical and Physical Section of the British Association for the Advancement of Science meeting in Glasgow:—"Professor Perry has stated that the standard of knowledge in electrical engineering in this country is not as high as it is elsewhere, and all men of science and many men in the street know that he is right."

The requirements may be summarised as follows :—

MECHANICAL ENGINEERING :		£
Professor		300
Two Demonstrators, £200 a year each		400
Lecturer on Machine Design		200
Laboratory expenses		300
ELECTRICAL ENGINEERING :		
Two Demonstrators and Mechanic		500
Laboratory expenses		200
Total annual increment		<u>£1900</u>

The completion of the S.W. wing to give the additional accommodation required for Engineering in its several branches, also for Architecture, Applied Mathematics and Mechanics, and Geology, is estimated to cost about £20,000.

The total capital sum required for the extension of the Engineering Department is therefore £83,000, made up of £63,000, representing at 3 per cent. £1900 a year for Staff and expenses, and £20,000 for increased accommodation.

ARCHITECTURE.

Present Staff.

Professor T. ROGER SMITH, F.R.I.B.A.

Assistant: W. STIRLING.

Instructor in Measuring: E. G. BURR.

Instructor in Construction Drawing: Mr. A. BUCHANAN.

Endowment.

(A yearly grant of £200 from the Carpenters' Company for the purposes stated below.)

THE Chair of Architecture was instituted in 1841, and was the first chair of the kind in this country. The first Professor was Thomas L. Donaldson (1841–1865): he laid the foundations for the work of the Department, and began the preparation and collection of the large series of diagrams which now form part of the equipment of the classes; he also left funds to provide in each session two silver medals for the encouragement of the study of Architecture. His successor was Mr. T. Hayter Lewis, F.S.A., who developed the work of the College classes and who was largely instrumental in establishing and organising the Examinations in Architecture held by the Royal Institute of British Architects.

The courses of instruction have been from the first establishment directed to supplying the requirements of students preparing for the profession of Architecture. There is a class for Architecture as a Fine Art, and one for the study of Construction. The latter is attended, to a certain extent, by students of Engineering.

In the session 1891 the Carpenters' Company established at the College, as part of a scheme for promoting technical education, two evening classes for drawing and instruction under the direction of the Professor of Architecture. One is for Architectural Drawing and the other for the teaching of Building Construction. More recently a class has been instituted under the same scheme for Measuring and Estimating Builders' Work. The entire expense of these classes is borne by the Carpenters' Company.

The Chair has hitherto been occupied by an Architect engaged in practice, and no one else is so fit to carry the work on with advantage to the students; but this circumstance limits the amount of time which can be given by the Professor to his duties. Probably the most practicable arrangement would be to have a professional Professor as before, to be remunerated by fees, and to give the most important lectures and general supervision, and a well-qualified Assistant-Professor to take charge of the Drawing studio and to lecture on matters which may be allotted to him, and a Teacher of Measuring and Estimating.

For the full development of the Department more space is required and more complete equipment. The students who attend the lectures on Architecture are, nearly all of them, engaged during the day as assistants or pupils in Architects' offices; and for their convenience the classes are held in the evening. It will in time be desirable to institute day classes.

Space can be found in the Engineering Wing of the College (when completed) for a Museum, Drawing-office, and Lecture-room. The sums required for this development and for the proper working of the Department are:—

Building	£5,000
Annual Income of £300; or a capital sum of	£10,000

THE LIBRARY.

Present Staff.

Librarian: R. W. CHAMBERS, B.A., Fellow of the College.

Assistant Librarian: F. W. CLIFFORD.

Library Assistants: L. NEWCOMBE.

R. OFFOR.

Endowments.

Grant Fund of about £60 a year for works on Zoology

Ricardo Fund of about £20 a year for works on Political Economy.

Peene Fund of about £50 a year for General Literature.

THE aims of a library situated within half a mile of the British Museum must obviously differ from those of libraries placed at a greater distance from the National Collection of books; libraries which, in proportion as their readers rely solely upon them, must aim at absolute comprehensiveness.

The very extent of the British Museum, however, makes ready access to its stores impossible: the books of value to a student are choked amid the mass of almost worthless material which a library aiming at completeness must acquire and retain.

The object of the College Library must be to provide students with a carefully selected collection of books so arranged that every man can have access to the literature of his department, and every assistance afforded him, by means of subject-catalogue, and classification on the shelf, in reaching the books he wants: points which have necessarily to be sacrificed in larger libraries built upon a colossal scale. A library in fact is wanted which shall stand to the British Museum Library in the same relation as the Seminar Libraries of a German University do to the University Library. Such a library might be begun with 100,000 volumes.

The material for this collection already exists in the different College libraries, which number in all over 100,000 books. These libraries supply the most essential need, viz., complete series of most of the leading scientific periodicals, of which sets, dating in most cases from the first number published, are already in the possession of the College.

By bequests from different scholars the College has become possessed of libraries carefully amassed by specialists during a long course of years, and illustrating the growth of different arts and sciences.

Such special libraries are the Mathematical and Physical library bequeathed by Prof. J. T. Graves: the Physiological library of Prof. Sharpey: the Zoological libraries of Dr. Edward Holme and Professor Grant: the Chemical Libraries of Prof. George Fownes and Prof. Thomas Graham: the Fine Art Library purchased out of the Edwin Field Memorial Fund: the Law libraries of William Backburne, Esq., and Mr. Justice Quain: the Dante library of Dr. Barlow, and the Chinese library of the Rev. Robert Morrison; in addition to a number of smaller bequests.

The main obstacle to the establishment of such a library as is outlined above lies in the want of room. The present General Library provides shelf-room for only 45,000 books; the rest are scattered throughout different parts of the College.

Ample space could be found for the library in what is now the Anatomical Museum. Room would thus be provided for 150,000 books. This change could be the more easily made, as for other reasons it is desirable to concentrate the Anatomical Department, by removing the Museum to the Anatomical Institute, as outlined on p. 40.

To keep such a collection up to date, at least £1000 must be annually spent for purchase of books and periodicals and payment of salaries, in addition to the existing small endowment of £130 per annum. The adequate endowment of the library would therefore amount to a capital sum of £30,000.

Such "bringing up to date" would have in many subjects to be retrospective, and a sum of £5000 would have to be expended in making up the deficiencies of past years. For example, in the case of the Mathematical Library of the late Professor Graves it has been found quite impossible to supply new books on the scale laid down by the first collector with regard to the earlier literature of the subject: with the result that a unique historical collection illustrating the growth of mathematical science up to the year 1870 is hampered in its practical utility by the fact that the growth of research since that date is quite insufficiently represented.

The efficiency of the Archæological Departments of the College depends very largely upon the efficiency of the Archæological Section of the library. It has been found advantageous to organize this department upon a separate basis, and to place it in intimate connection with the Archæological Museums. The nucleus of the Archæological Library is formed by the Yates Bequest (Classical Archæology) and the Edwards Bequest (Egyptology). In these two branches the Library has been brought up to the standard of modern requirements. There is, however, no fund available for the maintenance of these sections in their present state, whilst in Prehistoric and Mediæval Archæology almost everything remains to be done.

For reasons of convenience, books on Medicine have long been collected together in a special room, and recently the same thing has been done with those relating to Natural Science.

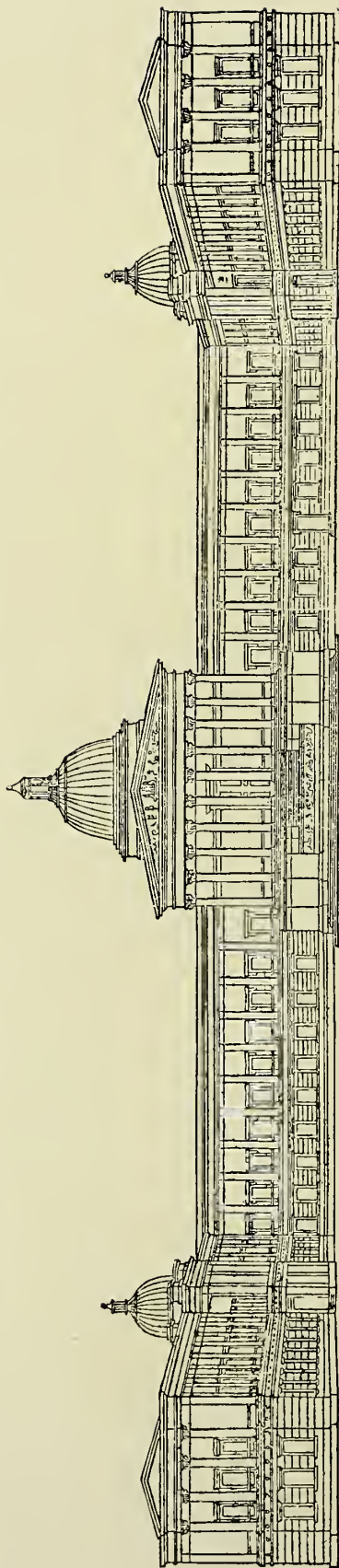
The sums required are therefore:—

For establishing the Library in suitable premises	£5,000
For bringing the Library up to the standard of present requirements	£5,000
For endowment of the Library for future years	£30,000
A total of	<u>£40,000</u>

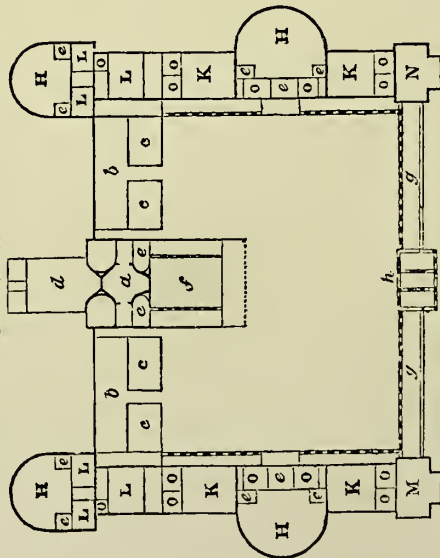
APPENDICES.

- I. NOTE ON THE HISTORY OF THE COLLEGE, WITH ELEVATION AND PLAN AS DESIGNED BY W. WILKINS, M.A., R.A.
- II. LIST OF ENDOWED DEPARTMENTS.
- III. LIST OF UNENDOWED DEPARTMENTS, IN WHICH GRANTS ARE MADE IN AID OF PROFESSORS' SALARIES.
- IV. LIST OF UNENDOWED DEPARTMENTS, IN WHICH THE PROFESSOR RECEIVES ONLY A SHARE OF THE FEES.
- V. LIST OF ORIGINAL PAPERS WHICH HAVE APPEARED DURING THE PAST TEN YEARS DESCRIBING THE DISCOVERIES AND THE RESULTS OF RESEARCHES WHICH HAVE BEEN MADE IN UNIVERSITY COLLEGE, LONDON.

DESIGN ADOPTED BY THE COUNCIL FOR THE UNIVERSITY OF LONDON.—WILLIAM WILKINS, M.A. R.A. Architect.



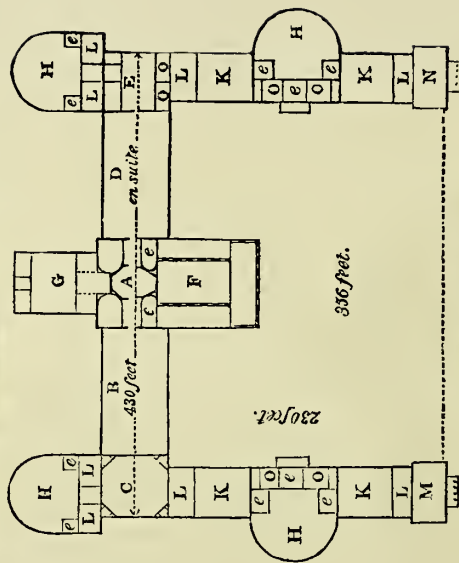
GARDEN.



Plan of the Ground Floor—Extent of Front 450 feet.

REFERENCES.

- A Vestibule, 36 feet diameter.
- B Museum, 118 by 50.
- C Do. of Anatomy, 50 by 48.
- D Library, 118 by 50.
- E Do.....continued.
- F Great Hall, 80 by 50.
- G Council Room.
- H H Great Lecture Rooms.
- K K Smaller Ditto, 44 by 30.
- L Examination Rooms.
- M Secretary, &c.
- N Librarian, &c.
- O Professors' Rooms.
- a Subvestibule.
- b b Cloisters, 108 by 24 each.
- c c Students' Assembling Rooms.
- d Students' Library.
- e e Staircases.
- f Sub-hall.
- g g Ambulatories.
- h Propylæum.



Plan of the Principal Floor.

It will be seen that for the sake of clearness the Colonnade in the Ground Plan has been omitted from the Elevation.

I.—NOTE ON THE HISTORY

OF

UNIVERSITY COLLEGE, LONDON.

THE idea of making provision for University education in London is as old as the days of Queen Elizabeth, when Sir Thomas Gresham instituted the foundation that bears his name: but beyond that foundation, with its varying fortunes, little was done until the beginning of the nineteenth century. The need that England had for higher education freed from all restrictions had long been in the mind of Thomas Campbell when in 1825, after a visit to the University of Berlin, he gave expression to his views in the form of a letter in *The Times* addressed to Mr. Henry (afterwards Lord) Brougham.

The outcome of that letter was the formation of a Provisional Committee, amongst the members of which were Brougham, Thomas Campbell, Isaac Lyon Goldsmid, George Grote, Jeremy Bentham, David Ricardo, James Mill, John Stuart Mill, Joseph Hume, John Black, John Austin, and John Romilly.

The foundation of University College, London, was the result of the deliberations of this Committee. The founders laid down two great principles for their foundation, in the establishment of which they were the pioneers. The first was neutrality between all varieties of opinion on matters of religion, and, as a consequence, abstinence from dogmatic religious teaching. The second was that the curriculum should be comprehensive and that all subjects which would add to human knowledge should, as far as means would allow, be taught and worked at on an equal footing.

These principles are commonly accepted now, but at the time of the foundation of the College they were regarded as daring innovations. It must be remembered that at that time tests still obtained at the English Universities, and the subjects taught were practically limited to Classics, Mathematics, and Divinity. From the foregoing pages it will be seen that the College has been true to the principles of its founders, and has led the way in many of the most important reforms and new departures for University work that have been made since its foundation: it has, moreover, been the model of the various University Colleges that have been founded in different parts of England and Wales. The principles of its founders have triumphed.

The design and plans finally adopted for the buildings were by William Wilkins, R.A.; the foundation-stone of the central block was laid by the Duke of Sussex on April 30th, 1827. The central block was completed at a cost of £86,000, and was opened on October 1st, 1828; it contained four Theatres (now the Mathematical, Botanical, Anatomical, and Chemical Theatres), two large Lecture Rooms, five small Lecture Rooms (now used by the Faculty of Arts), a Library (now the South Library, containing the Barlow, Graves, Morris, Morrison Chinese, Grant, and Quain collections of books), and the Anatomical and Pathological Museum.

Since 1828 the College buildings have been added to on several occasions. The Brundrett wing, containing the General Library and Department of Physics, was built from the bequest

of Jonathan Brundrett; the Birkbeck Laboratory, now containing the Departments of Pathology and Botany, was built by public subscription; the North wing, including the Fine Art School, the Physiological and Chemical Departments, and part of the Zoological Department, was built partly from the bequest of Mr. Felix Slade, partly from subscriptions, and partly from College funds; and the Engineering wing (incomplete), partly from subscriptions and partly from College funds.

The organisation of the College is that of a University: the supreme control is vested in the hands of the Council, which is elected by the members of the College; the Council is aided by the Senate (consisting of all the Professors) in all academic matters; and the details of academic work are in the hands of the Faculties, which are now three in number—Arts and Laws forming one, Science including Engineering and Architecture a second, and Medicine a third. The constitution, however, enables the number of the Faculties to be increased as necessity arises*.

As in many other respects University College has been a pioneer, so in the education of women. The movement began in 1869 with the formation of the Ladies' Educational Association. Under the auspices of that body classes in English Literature and Experimental Physics were started by Professors Henry Morley and Carey Foster outside the College. Two years later the classes were held within the College, but were kept distinct from those for men. The number of classes was gradually increased; and in 1871, on the initiative of Professor Cairnes, women were admitted to the ordinary course in Political Economy. In 1873 the class of Jurisprudence, in 1875 the classes of Geology and Roman Law, in 1876 those of Mineralogy and Higher Mathematics, in 1877 those of Philosophy of Mind and Logic, were thrown open to women; and in 1878 the Faculties of Arts and Laws and of Science were thrown open, and the work of the Ladies' Educational Association was accomplished.

University College was thus the pioneer in providing University facilities for women, and it has upon its roll a large number of the most prominent women in public life at the present day.

Of the many men and women of distinction who owe their training to the College, it is impossible to speak in this short note.

The number of students in the College during its first year was about 360; the highest number ever reached has been upwards of 1300. The number last session was 1098. With the extensions proposed in the foregoing pages it would be possible to accommodate without overcrowding not less than 2,000 students: it must be understood, however, that the object of the extension is not merely to increase the accommodation but to make the equipment and training as perfect as possible.

The College Lands and Buildings have cost upwards of £186,000: at the present day their cost would be very much greater. It is estimated that the value of the equipment, including that of the Libraries and Museums, is upwards of £100,000: the College Trust Funds are valued at £307,500. Thus the total value of the College for educational purposes is at least £600,000.

* There were originally only two Faculties—Arts and Laws forming one and Medicine the other. The Science Department was organised as a separate Faculty in 1870.

II.—LIST OF ENDOWED DEPARTMENTS.

DEPARTMENT.	ENDOWMENT.		GRANTS, &c.		
	Name of	Annual Income of	Source.	Annual Amount.	Purpose.
Applied Mathematics and Mechanics.	Goldsmid, Sir F. H.	£ 200	L.C.C.	£ 200	Assistants & Apparatus.
Archæology	Yates.	300			
Lectureship	„	100			
Botany	Quain.	300	Quain.	100	Assistants & Apparatus.
„ Student	„	100			
Clinical Medicine	Holme.	100			
„ Surgery .....	....	100			
Comparative Law	Quain Law.	335			
Egyptology	Edwards.	144			
English	Quain.	350			
„ (Student).....	„	150			
Fine Art.....	Slade.	224			
Geology and Mineralogy ..	Yates.	254			
„ „ ..	Goldsmid Prof.	31			
Hebrew	„ „	62			
Hygiene.....	Berridge.	108	Chadwick.	524	Assistants & Apparatus.
„ Assistant-Prof. ..	„	54			
„ Laboratory Fund..	„	54			
Italian (Lectures on Dante).	Barlow.	26			
Mind and Logic	Grote.	214			
Pathology	Berridge.	30	{ Holme. General Funds.	{ 50 100 }	Assistants & Apparatus.
„ Laboratory Fund.	„	54			
Physics	Quain.	300	General Funds.	200	Assistants.
„ Laboratory .....	....	....	Quain.	200	Apparatus.
Physiology	Jodrell.	255	General Funds.	125	Assistants & Apparatus.
„ .....	....	....	Holme.	25	
„ (Scholar)	Sharpey.	105	Holme.	45 {	To "make Scholar's Stipend up to £150.
Political Economy	Newmarch.	57			
Zoology	Jodrell.	244	Quain.	100	Assistants & Apparatus.
„ Museum Curator..	....	....	General Funds.	50	Curator's Stipend.

III.—UNENDOWED DEPARTMENTS to which Grants are made in aid of Professors' Salaries.

DEPARTMENT.	GRANTS FOR PROFESSORS.		GRANTS FOR OTHER PURPOSES.		
	Source of.	Annual amounts.	Source of.	Annual amounts.	Purpose.
Anatomy	General Funds.	£ 400*		£	
Chemistry (see III.) . . .	Parliamentary.	100	L.C.C.	400	Assistants & Apparatus.
Comparative Philology . .	„	50			
Electrical Engineering .	General Funds.	250* {	L.C.C. Pender.	400 140	Assistance, &c. Apparatus.
French	Fielden.	100			
„	General Funds.	100			
German	Fielden.	100			
„	Quain.	50			
Greek	Hollier.	100			
„	Goldsmid.	100			
„	Parliamentary.	50			
History	„	100			
Latin {	Goldsmid, Sir F. H.	{ 100			
„	Parliamentary.	150			
Mathematics	Parliamentary.	75	Parl'ry.	75	Assistant.
Political Economy	Parliamentary.	100			

* In consideration of this the Professor gets $\frac{1}{4}$ of the fees only.

IV.—UNENDOWED DEPARTMENTS in which the Professor receives only a Share of the Fees.

NAME OF DEPARTMENT.	GRANTS FOR OTHER PURPOSES.		
	Source.	Amount.	Purpose.
Ancient Indian History	Carpenters' Co.	£	Assistance and Apparatus.
Arabic			
Architecture		200	
Bengali			
Burmese.....			
Civil Engineering			
Clinical Dental Surgery			
Clinical Dermatology			
Constitutional Law and History			
English Law			
Gujarati			
Hindi			
Hindustani.....			
Indian Law			
Italian			
Jurisprudence	L.C.C.		Assistance and Apparatus.
Marathi			
Materia Medica.....		400	
Mechanical Engineering	Chadwick.		Assistance and Apparatus.
Medical Jurisprudence			
Medicine			
Mental Physiology			
Municipal Engineering.....		400	
Obstetric Medicine			
Ophthalmic Medicine and Surgery			
Pali			
Pathological Chemistry			
Persian			
Roman Law			
Sanskrit			
Surgery			
„ Practical			
„ Operative			
Tamil			
Telugu			

V.—LIST OF ORIGINAL PAPERS

WHICH HAVE APPEARED

DURING THE PAST TEN YEARS

DESCRIBING

THE DISCOVERIES AND THE RESULTS OF RESEARCHES

WHICH HAVE BEEN MADE IN

UNIVERSITY COLLEGE, LONDON.

FACULTIES OF SCIENCE AND OF MEDICINE.

I. MATHEMATICS.

Prof. HILL, M.A., D.Sc., F.R.S.

1. On Node- and Cusp-Loci, which are also Envelopes. (*Proc. Lond. Math. Soc.* vol. xxii. pp. 216-235.)
2. On the Locus of Singular Points and Lines which occur in connection with the Theory of the Locus of Ultimate Intersections of a System of Surfaces. (*Proc. Roy. Soc.* vol. i. pp. 180-186; also *Phil. Trans.* 1892, pp. 141-278.)
3. Note on the Motion of a Fluid Ellipsoid under its own Attraction. (*Proc. Lond. Math. Soc.* vol. xxiii. pp. 88-95.)
4. On a Spherical Vortex. (*Proc. Roy. Soc.* vol. lv.; *Phil. Trans.* vol. 185, 1894.)
5. On the Geometrical Meaning of a Form of the Orthogonal Transformation. (*Proc. Lond. Math. Soc.* vol. xxvi., 1895.)
6. A Property of Skew Determinants. (*Ibid.* vol. xxvi., 1895.)
7. Determination of the Volumes of certain Species of Tetrahedra without employment of the Method of Limits. (*Ibid.* vol. xxvii., 1895.)
8. On the Flex-Locus of a System of Plane Curves. (*Messenger of Mathematics*, No. 272, 1893.)
9. On Cauchy's Condensation-Test for the Convergency of Series. (*Ibid.* No. 307, 1896.)
10. On the Connecting-Rod. (*Proc. Inst. Civil Engineers*, vol. 124, 1896.)
11. On the Fifth Book of Euclid's Elements. (*Cambridge Philosophical Transactions*, vol. xvi. pt. iv.)
12. An Edition of the Fifth and Sixth Books of Euclid. (Cambridge University Press, 1901.)
13. On the Fifth and Sixth Books of Euclid's Elements (Second Paper). (*Cambridge Philosophical Transactions*, vol. xix. pt. ii, 1901.)

II. CHEMISTRY.

Prof. RAMSAY, Ph.D., F.R.S.

1. On some of the Properties of Water and Steam. (*Phil. Trans.* 1892, pp. 107-130.)—This work, carried out in conjunction with Dr. SYDNEY YOUNG, gives data regarding the expansion, vapour-pressure, and vapour-density of water and steam between 120° and 270° C.
2. Some Ideas about Solution. (*Proc. Roy. Soc.* 1891, p. 305.)—The analogy between solutions and gases are pointed out, and some new suggestions are made.

Prof. RAMSAY and JOHN C. CHORLEY.

3. The Distillation of Wood. (*Journ. Soc. Chem. Ind.* 1892, pp. 395–872).—A careful study of the temperature-changes and of the relative amounts of products of distillation of oak, beech, and alder.

Assist. Prof. R. T. PLIMPTON, Ph.D.

4. The Metallic Derivatives of Acetylene. (*Proc. Chem. Soc.* 1892, p. 109).—This paper contains the results of an examination of the metallic derivatives of acetylene obtained from various salts of silver and mercury.

Assist. Prof. J. N. COLLIE, Ph.D.

5. The Action of Heat on Ethyl β -amidocrotonate. (*Trans. Chem. Soc.* vol. lix. p. 172.)
6. On the Constitution of Dehydracetic Acid. (*Ibid.* p. 179.)
7. The Lactone of Triacetic Acid. (*Ibid.* p. 607.)
8. Some Reactions of Dehydracetic Acid. (*Ibid.* p. 620.)
9. The Constitution of Pinene and Camphene. (*Ber. der deutschen Chem. Gesellschaft*, Bd. xx.)

Miss EMILY ASTON, B.Sc.

10. Some Compounds of the Oxides of Silver and Lead. (*Trans. Chem. Soc.* vol. lix. p. 1093.)

HAROLD PICTON, B.Sc.

11. The Physical Constitution of some Sulphide Solutions. (*Trans. Chem. Soc.* vol. lxi. p. 137.)

H. PICTON, B.Sc., and S. E. LINDER, B.Sc.

12. Some Metallic Hydrosulphides.
13. Solution and Pseudo-solution, Part I. (*Trans. Chem. Soc.* vol. lxi. pp. 114, 148.)

C. F. BAKER, B.Sc.

14. The Action of Caustic Soda on Hydrosorbic Acid. (*Dissertation for the Degree of D.Sc.*: Harrison & Sons, 1892.)

WATSON SMITH, F.I.C. (Lecturer on Chemical Technology).

15. The Cyanide Process for the Extraction of Gold from Low-grade Ores. (*Journ. Soc. Chem. Ind.* 1891, p. 93).—This work was carried out in conjunction with T. GRAHAM YOUNG.
16. Contributions to our Knowledge of the Soluble and Resinoid Constituents of Bituminous Coals. (*Ibid.* 1891, p. 975.)
17. Stability of certain Organic Nitrogen Compounds occurring in Coal and Pitch. (*Ibid.* 1892, p. 119.)
18. Schürmann's Reactions. (*Ibid.* 1892, p. 869.)
19. The Formation of Nitrous Oxide, and a New Method of Preparation. (*Ibid.* 1892, p. 867.)

WATSON SMITH and J. C. CHORLEY.

20. The Soluble and Resinous Constituents of Japanese and other Coals. (*Journ. Soc. Chem. Ind.*, 1892, p. 591.)

WATSON SMITH and M. W. TRAVERS.

21. The Composition of Peat occurring below the London Clays, at Poplar, Blackwall, and the Isle of Dogs. (*Journ. Soc. Chem. Ind.*, 1892, p. 591.)

1893.

Prof. W. RAMSAY and Dr. J. SHIELDS.

22. Note on the Combination of Dry Gases. (*Proc. Chem. Soc.* p. 168.)
 23. Variation of Surface-Energy with Temperature. (*Phil. Trans.* 1893, A. p. 647.)
 24. The Molecular Complexity of Liquids. (*Trans. Chem. Soc.* 1893, p. 1089.)
 25. The Boiling-point of Nitrous Oxide and the Melting-point of solid Nitrous Oxide. (*Trans. Chem. Soc.* 1893, p. 833.)

Dr. J. SHIELDS.

26. The Relative Strengths or Avidities of some Compounds of a Weak Acid Character. (*Proc. Chem. Soc.* 1893, p. 144.)

Dr. J. N. COLLIE.

27. The Fluorescin of Camphoric Anhydride. (*Trans. Chem. Soc.* 1893, p. 961.)
 28. The Production of Naphthalene Derivatives from Dehydracetic Acid. (*Ibid.* 1893, p. 329.)

Dr. J. N. COLLIE and W. S. MYERS.

29. The Formation of Orcinol and other Condensation-products of Dehydracetic Acid. (*Trans. Chem. Soc.* 1893, p. 122.)

Miss EMILY ASTON and Prof. RAMSAY.

30. The Atomic Weight of Boron. (*Trans. Chem. Soc.* 1893, p. 207.)

Dr. J. WALKER.

31. The Electrolysis of Sodium Ortho-ethyl-camphorate. (*Trans. Chem. Soc.* 1893, p. 498.)
 32. The Boiling-points of Homologous Compounds, Part I. (*Ibid.* p. 148.)

M. W. TRAVERS.

33. A Method for the Production of Acetylene. (*Proc. Chem. Soc.* 1893, p. 15.)

E. C. C. BALY.

34. Separation and Striation of Rarefied Gases under the influence of the Electric Discharge. (*Phil. Mag.* vol. xxxv. p. 200.)

Dr. J. SHIELDS.

35. On Hydrolysis and the extent to which it takes place in Aqueous Solutions. (*K. Svenska Vet.-Akad. Afhand.* 19, ii. 1.)
 36. Ueber die Stärke der Orthosulfobenzoessäure. (*Ber. d. deutsch. chem. Ges.* 1893, p. 3027.)

1894.

Prof. RAMSAY.

- 37. On the Thermal Behaviour of Liquids. (*Phil. Mag.* vol. xxxvii. pp. 215, 503.)
- 38. Ueber den kritischen Zustand. (*Z. phys. Chem.* vol. xv. p. 486.)
- 39. On the Passage of Hydrogen through a Palladium Septum, and the Pressure which it produces. (*Phil. Mag.* vol. xxxviii. p. 206.)
- 40. On the Complexity and the Dissociation of the Molecules of Liquids. (*Proc. Roy. Soc.* vol. lvi. p. 171.)

Prof. RAMSAY and Miss E. ASTON.

- 41. The Molecular Formulæ of some Liquids determined by their Molecular Surface-energy. (*Trans. Chem. Soc.* 1894, p. 167.)
- 42. The Molecular Surface-energy of Mixtures of non-associating Liquids. (*Proc. Roy. Soc.* vol. lvi. p. 182.)
- 43. The Molecular Surface-energy of the Esters, showing its Variation with Chemical Constitution. (*Ibid.* vol. lvi. p. 162.)

Assist.-Prof. J. N. COLLIE.

- 44. A new Method of Producing Carbon Tetrabromide. (*Trans. Chem. Soc.* 1894, p. 262.)

Dr. J. N. COLLIE and H. LE SUEUR.

- 45. On the Salts of Dehydracetic Acid. (*Trans. Chem. Soc.* 1894, p. 254.)

Dr. R. T. PLIMPTON and M. W. TRAVERS.

- 46. On Metallic Derivatives of Acetylene. (*Trans. Chem. Soc.* 1894, p. 264.)

Dr. J. WALKER.

- 47. On the Boiling-points of Homologous Compounds, Parts I. & II. (*Trans. Chem. Soc.* 1894, pp. 193 & 725.)
- 48. Note on the Constitution of Glycocine. (*Proc. Chem. Soc.* 1894, p. 94.)

Dr. J. SHIELDS.

- 49. On the relative Strength or Avidity of Weak Acids. (*Phil. Mag.* vol. xxxvii. p. 159.)

S. E. LINDER and H. PICTON.

- 50. Solution and Pseudo-Solution. (*Proc. Chem. Soc.* 1894, p. 166.)

E. C. C. BALY and Prof. W. RAMSAY.

- 51. The Relation between the Pressure, Temperature, and Volume of Rarefied Gases. (*Phil. Mag.* 1894, vol. xxxviii. p. 301.)

E. C. C. BALY and J. CHORLEY.

- 52. A Thermometer for High Temperatures. (*Journ. Soc. Chem. Ind.* 1894, p. 418.)

A. HERZFELDER.

- 53. Ein Beitrag zur Substitution in der aliphatischen Reihe. (*Ber. d. deutsch. chem. Ges.* 1894, p. 489.)

1895.

Prof. RAMSAY and LORD RAYLEIGH.

54. Argon, a new Constituent of the Atmosphere. (*Phil. Trans.* 1895, A, p. 187.)

Prof. RAMSAY.

55. On a Gas showing the Spectrum of Helium. (*Proc. Roy. Soc.* vol. lviii. p. 65.)
 56. Helium, a gaseous Constituent of certain Minerals. (*Ibid.* vol. lix. pp. 81, 325.)

Prof. RAMSAY, Dr. MOND, and Dr. J. SHIELDS.

57. The Occlusion of Hydrogen and Oxygen by Platinum Black. (*Phil. Trans.* 1895, A, p. 657.)
 58. Non-existence of Gaseous Nitrous Anhydride. (*Chem. News*, 1895, p. 182.)

Prof. RAMSAY, Dr. COLLIE, and M. W. TRAVERS.

59. Helium, a Constituent of certain Minerals. (*Trans. Chem. Soc.* 1895, p. 684.)

Assist.-Prof. J. N. COLLIE.

60. A new Form of Barometer. (*Trans. Chem. Soc.* 1895, p. 128.)
 61. The Action of Heat on β -Amido-crotonate. (*Ibid.* 1895, p. 215.)

Assist.-Prof. R. T. PLIMPTON and J. CHORLEY.

62. The Titration of Iodine with Barium Thiosulphate. (*Trans. Chem. Soc.* 1895, p. 314.)

Dr. WATSON SMITH and J. CHORLEY.

63. The Composition of the Bitumen of Japanese Coal. (*Journ. Soc. Chem. Ind.* 1895, p. 221.)

Miss A. P. SEDGWICK and Dr. J. N. COLLIE.

64. Some Oxypyridine Derivatives. (*Trans. Chem. Soc.* 1895, p. 399.)

Dr. J. WALKER and Miss E. ASTON.

65. The Affinity of Weak Bases. (*Trans. Chem. Soc.* 1895, p. 576.)

G. MACDONALD and A. KELLAS.

66. Is Argon contained in Animal or Vegetable Substances? (*Proc. Roy. Soc.* vol. lvii. p. 490.)

E. C. C. BALY.

67. A possible Explanation of the two-fold Spectrum of Oxygen and Nitrogen. (*Proc. Roy. Soc.* vol. lvii. p. 468.)

A. HERZFELDER.

68. The Action of Sulphur on α -Nitro-naphthalene. (*Trans. Chem. Soc.* 1895, p. 640.)

A. KELLAS.

69. The Amount of Argon in Respired and in Atmospheric Air. (*Proc. Roy. Soc.* vol. lix. p. 493.)

Prof. RAMSAY.

70. Gases of the Atmosphere. (Macmillan & Co.)

Miss A. P. SEDGWICK and Assist.-Prof. COLLIE.

71. Some Oxypyridine Derivatives. (*Trans. Chem. Soc.* 1895, p. 399.)

E. C. C. BALY and J. CHORLEY.

72. Action of Nitric Acid on Lignocelluloses. (*Chem. News*, p. 226.)

1896.

Prof. RAMSAY.

73. Helium, a Gaseous Constituent of Certain Minerals.—Part II. Density. (*Proc. Roy. Soc.* vol. lix. p. 325.)

Prof. RAMSAY and A. KELLAS.

74. The Gases from Certain Mineral Waters. (*Proc. Roy. Soc.* vol. lix. p. 68.)

Prof. RAMSAY and Assist.-Prof. COLLIE.

75. The Behaviour of Argon and Helium, when submitted to the Electric Discharge. (*Proc. Roy. Soc.* vol. lix. p. 257.)

Prof. RAMSAY and Miss D. MARSHALL.

76. On the Heat of Vaporisation of Benzene. (*Phil. Mag.* 1896, vol. xli. p. 1.)
77. A Method of Comparing the Heats of Vaporisation of Different Liquids. (*Phil. Mag.* 1896, vol. xli. p. 38.)

Prof. RAMSAY and Assist.-Prof. COLLIE.

78. Helium and Argon.—Part III. Experiments which show the Inactivity of these Elements. (*Proc. Roy. Soc.* vol. lx. p. 53.)
79. The Homogeneity of Argon and Helium. (*Ibid.* vol. lx. p. 206.)

Prof. RAMSAY and M. W. TRAVERS.

80. The Gaseous Constituents of Certain Mineral Substances and Mineral Waters. (*Proc. Roy. Soc.* vol. lx. p. 442.)

Prof. RAMSAY, E. P. PERMAN, and J. ROSE-INNES.

81. The Adiabatic Relations of Ethyl Oxide. (*Phil. Trans.* 1897.)

Prof. RAMSAY and N. EUMORFOPOULOS.

82. The Determination of High Temperatures with the Meldometer. (*Proc. Phys. Soc.* 1896, p. 105.)

Assist.-Prof. COLLIE and N. T. M. WILSMORE.

83. The Production of Naphthalene Derivatives and of Isoquinoline from Dehydracetic Acid. (*Trans. Chem. Soc.* 1896, p. 293.)

M. W. TRAVERS.

84. Some Experiments on Helium. (*Proc. Roy. Soc.* vol. lx. p. 449.)

Drs. KUENEN and RANDALL.

85. The Expansion of Argon and Helium, as compared with that of Air and Hydrogen. (*Proc. Roy. Soc.* vol. lix. p. 60.)

Miss ASTON and Miss NEWTON.

86. On a Form of Zinc Oxide not attacked by heating with Sulphur. (*Chem. News.*)

Dr. J. SHIELDS.

87. A Mechanical Device for performing the Temperature-corrections of Barometers. (*Phil. Mag.* 1896, p. 365.)

Prof. W. RAMSAY, F.R.S., and M. W. TRAVERS, D.Sc.

88. An Attempt to cause Helium and Argon to pass through red-hot Platinum, Palladium, and Iron. (*Proc. Roy. Soc.* vol. lxi. p. 267.)

89. Fergusonite, an endothermic mineral. (*Ibid.* vol. lxii. p. 325.)
 90. On the Refractivities of Air, Oxygen, Nitrogen, Argon, Hydrogen, and Helium. (*Ibid.* vol. lxii. p. 225.)
 91. On the Homogeneity of Helium. (*Ibid.* vol. lxii. p. 316.)

EMILY ASTON, B.Sc., and Dr. J. N. COLLIE.

92. The Oxidation-Products of α - γ -dimethyl- α -chloropyridine. (*Trans. Chem. Soc.* 1897, p. 89.)

Prof. W. RAMSAY, F.R.S., L. MOND, F.R.S., and J. SHIELDS.

93. On the Occlusion of Oxygen and Hydrogen by Palladium. (*Proc. Roy. Soc.* vol. lxii. p. 290.)

1897.

Prof. RAMSAY, Dr. J. SHIELDS, and Dr. L. MOND.

94. The Occlusion of Oxygen and Hydrogen by Platinum Black, Part I. (*Phil. Trans. A.* 1897, p. 129.)

A. M. KELLAS, B.Sc., Ph.D.

95. Ueber die Esterifizierungsgeschwindigkeit der monosubstituirten Benzoesauren, und die Verseifungsgeschwindigkeit der Ester. (*Zeitschr. für physikalische Chemie*, 1897, vol. xxiv. p. 221.)

1898.

LUCY HALL, B.Sc., and Assist.-Prof. J. N. COLLIE.

96. On the production of some Nitro- and Amido-oxylutidines. (*Trans. Chem. Soc.* 1898, p. 568.)

WINIFRED JUDSON, B.Sc., and J. WALLACE WALKER, M.A.

97. On the Reduction of Bromic Acid, and on the Law of Mass-action. (*Trans. Chem. Soc.* 1898, p. 64.)

M. W. TRAVERS, D.Sc.

98. The Origin of the Gases evolved on heating Mineral Substances, Meteorites, &c. (*Proc. Roy. Soc.* vol. lxiv. p. 130.)

Prof. W. RAMSAY, F.R.S., and M. W. TRAVERS, D.Sc.

99. On a new Constituent of Atmospheric Air. (*Proc. Roy. Soc.* vol. lxiii. p. 405.)
 100. On the Companions of Argon. (*Ibid.* p. 437.)
 101. On the Companions of Argon, and on Neon. (*Brit. Assoc. Rep.* 1898.)

Prof. RAMSAY, Dr. J. SHIELDS, and Dr. L. MOND.

102. The Occlusion of Oxygen and Hydrogen by Platinum Black, Part II. (*Phil. Trans. A.* 1898, p. 105.)

Prof. W. RAMSAY, F.R.S.

103. L'Helium. (*Annales de Chemie et de Physique*, Mars 1898.)

1899.

Prof. W. RAMSAY, F.R.S., and Assist.-Prof. M. W. TRAVERS, D.Sc.

104. The Preparation and some of the Properties of Pure Argon. (*Proc. Roy. Soc.* vol. lxiv. p. 183.)

Prof. W. RAMSAY, F.R.S.

105. Note on the Densities of Atmospheric Nitrogen, Pure Nitrogen, and Argon. (*Proc. Roy. Soc.* vol. lxiv. p. 181.)
 106. Ueber die neuerdings entdeckten Gase und ihre Beziehung zum periodischen Gesetz. (*Berichte der deutschen chemische Gesellschaft*, vol. xxxi. p. 311.)

1900-01.

F. G. DONNAN, M.A., Ph.D.

107. Ueber die Natur der Seifenemulsionen. (*Zeitschrift für Phys. Chemie*, xxxi., Jubelband.)

108. The Relative Rates of Effusion of Argon, Helium, and some other Gases. (*Phil. Mag.* May 1900.)

E. C. C. BALY.

109. On the Distillation of Liquid Air, and the Composition of the Gaseous and Liquid Phases.—
Part I. At Constant Pressure. (*Phil. Mag.* June 1900.)

S. SMILES, B.Sc.

110. Action of Alkyl Iodides on the Mercuric Iodide Sulphides of the Fatty Series. (*Trans. Chem. Soc.* lxxvii. p. 160.)

T. ESTREICHER, Ph.D.

111. Die Löslichkeitsverhältnisse von Argon und Helium im Wasser. (*Zeitschrift für Phys. Chemie*, xxxi., Jubelband.)

Prof. W. RAMSAY and J. DRUGMAN.

112. Specific Gravities of some Elements at their Boiling-points. (*Trans. Chem. Soc.* 1900, p. 1228.)

Prof. W. RAMSAY and G. RUDOLF.

113. The Action of Heat on Ethyl Sulphuric Acid. (*Chem. Soc.* 1900.)

Prof. W. RAMSAY and H. S. HATFIELD.

114. Preliminary Note on Hydrides of Boron. (*Chem. Soc.* 1901.)

Prof. W. RAMSAY and Assist.-Prof. M. W. TRAVERS.

115. The Companions of Argon. (*Phil. Trans.* 1901, p. 43.)

Prof. W. RAMSAY.

116. The Refractivities of the Inactive Gases. (*Archives Néerlandaises*, 1900.)

117. Modern Chemistry. (Dent & Co., 1901.)

Assist.-Prof. M. W. TRAVERS.

118. Liquefaction of Hydrogen. (*Phil. Mag.* 1901.)

119. Substances thermométriques. (*Journal de l'Université de Nancy*, 1900.)

120. The Experimental Study of Gases. (Macmillan & Co., 1901.)

F. G. DONNAN, M.A., Ph.D.

121. Theory of Colloidal Solutions. (*Phil. Mag.* 1901.)

122. John Mayow. (*Ostwald's Klassiker*, Engelmann u. Sohn, Leipzig.)

G. SMILES.

123. Contributions to the Stereochemistry of Sulphur; an optically active sulphine base. (*Trans. Chem. Soc.* 1900, p. 1174.)

H. STEVENS.

124. Zur Kenntniss der Metathorsäure. (*Zeitschrift für anorganische Chemie*, 1900.)

G. RUDORF.

125. Periodic Classification. (Whittaker & Co., 1900.)

Prof. W. RAMSAY and G. SENTER.

126. On Hydrostatic Pressure. (*Brit. Assoc.* 1901.)

Assist.-Prof. M. W. TRAVERS and G. SENTER.

127. On the Comparison of the Constant-Pressure and Constant-Volume Gas Thermometers at the Boiling-Point of Liquid Oxygen. (*Brit. Assoc.* 1901.)

III. APPLIED MATHEMATICS.

Prof. KARL PEARSON.

1. The Grammar of Science. First Edition. 1892.
2. A History of the Theory of Elasticity and the Strength of Materials from Galileo to the Present Time. 1893.
Vol. II., Part I. Saint-Venant to Lord Kelvin, pp. xvi+762.
" Part II. " " " pp. 546+12.
3. On the Flexure of Heavy Beams with Continuous Systems of Loading.—Part I. Beams of Circular Cross-section. (*Quarterly Journal of Mathematics*, vol. xxiv.)
4. (With L. N. G. FILON, M.A.) *Ibid.*—Part II. Beams of Elliptic Cross-section. (*Quarterly Journal of Mathematics*, 1899.)
5. Contributions to the Mathematical Theory of Evolution.—Part I. On the Dissection of Asymmetrical Frequency. (*Phil. Trans.* vol. 185, 1894.)
6. *Ibid.*—Part II. Skew Variation in Homogeneous Material. (*Phil. Trans.* vol. 186, 1895.)
7. *Ibid.*—Part III. Regression, Heredity, and Panmixia. (*Phil. Trans.* vol. 187, 1896.)
8. *Ibid.*—Part IV. (with Assistant-Professor L. N. G. FILON, M.A.). On the Influence of Random Selection on Variation and Correlation and on the Probable Errors of the Frequency-Constants. (*Phil. Trans.* vol. 191, 1898.)
9. *Ibid.*—Part V. On the Reconstruction of the Stature of Prehistoric Races. (*Phil. Trans.* vol. 192.)
10. *Ibid.*—Part VI. (with Dr. ALICE LEE and LESLIE BRAMLEY-MOORE). On Reproductive Selection, Inheritance of Fertility in Man and Fecundity in Thoroughbred Racehorses. (*Phil. Trans.* vol. 192.)
11. *Ibid.*—Part VII. (with L. N. G. FILON and LESLIE BRAMLEY-MOORE). On the Correlation of Characters not Quantitatively Measurable. (*Phil. Trans.* vol. 195, 1900.)
12. *Ibid.*—Part VIII. (with Dr. ALICE LEE). On the Inheritance of Characters not capable of exact Quantitative Measurement. (*Phil. Trans.* vol. 195, 1900.)
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- (xv.) On the Dielectric Constants of certain Organic Bodies at the Temperature of Liquid Air. (*Ibid.* 1897.)

Books and New Editions of Works published by Prof. J. A. FLEMING :—

- 9. A New Edition of a Treatise on the Alternate Current Transformer. 1895.
- 10. A Course of Four Lectures on Electric Illumination, delivered at the Royal Institution. 1895.
- 11. Electrical Laboratory Notes and Forms. (This has been translated into French. 1896.)
- 12. Magnets and Electric Currents. 1897.
- 13. A Handbook for the Electrical Laboratory and Testing-Room. 1901.

Prof. J. A. FLEMING, F.R.S.

- 14. The Electrolysis of Gas and Water Pipes by the Earth-Currents from Electric Tramways. Paper read before the British Association, Bristol, 1898.
- 15. The Ferro-magnetic Properties of Iron and Steel. Address to the Sheffield Society of Engineers and Metallurgists, September 1897.
- 16. Magnets and Electric Currents. A Text-book for Engineering Students. January 1898.)

Prof. J. A. FLEMING, F.R.S., assisted by Messrs. A. W. ASHTON and H. J. TOMLINSON (1851 Exhibition Scholars).

- 17. On the Magnetic Hysteresis of Cobalt. (*Phil. Mag.* September 1899.)

Prof. J. A. FLEMING, F.R.S., and Prof. J. DEWAR, F.R.S., assisted by J. E. PETAVEL, 1851 Exhibition Scholar.

- 18. A Note on some further Determinations of the Dielectric Constants of Organic Bodies and Electrolytes at Very Low Temperatures. (*Proc. Roy. Soc.* December 1897.)
- 19. On the Magnetic Susceptibility of Liquid Oxygen. (*Ibid.* May 1898.)

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- 20. On a Model which Imitates the Behaviour of Dielectrics. (*Phil. Mag.* August 1901.)

XIII. HYGIENE AND PUBLIC HEALTH.

Prof. W. H. CORFIELD, M.D.

- 1. Harveian Lectures on Disease and Defective House Sanitation, delivered before the Harveian Society of London in 1893. (Published by H. K. Lewis.)
- 2. Presidential Address : Section Public Health, at Brit. Med. Assoc., 1894.
- 3. The Teaching of Public Health. (Presidential Address to Section of Sanitary Science and Preventive Medicine at Congress of the Sanitary Institute, Newcastle-on-Tyne. 1896.)

Assistant-Professor H. R. KENWOOD, M.D.

4. The Prevention of Milk Epidemics. (*Brit. Med. Assoc.* 1894.)
5. Notes on a Milk-outbreak of Sore-throat in Finchley. (*Public Health & Ann. Rep. Finchley*, 1895.)
6. Lime and Ferrous Sulphate *versus* Lime and Sulphate of Alumina as Sewage Precipitants. (*Ann. Rep. for Finchley*, 1895.)
7. The Disinfection of Rooms by Sulphurous Acid Gas, with Experiments. (*Brit. Med. Assoc.* 1896.)
8. The Death-rate due to Ignorance, and its Remedy. (*Soc. Med. Officers of Health*, 1897.)
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10. The Notification of Measles. (*Sess. Mtg. San. Inst.* 1897.)
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Mr. LOUIS C. PARKES and Assistant-Professor H. R. KENWOOD.

14. "Hygiene and Public Health." (*Lewis Practical Series.*) 1901.

Prof. W. H. CORFIELD.

15. "Sanitary Knowledge in 1800." 1901.

XIV. MECHANICAL ENGINEERING DEPARTMENT.

A. G. ASHCROFT, Assoc. M.Inst.C.E.

1. On Testing some specimens of Malleable Iron. (*Minutes of Proceedings Inst. Civil Engineers*, cxvii. p. 322.)

L. H. APPLEBY, Assoc. M.Inst.C.E.

2. On Forms of Tensile Test-pieces. (*Minutes of Proceedings Inst. Civil Engineers*, cxviii. p. 395.)

Prof. T. HUDSON BEARE, M.Inst.C.E.

3. Research Committee on Marine-Engine Trials. Abstracts of Results of experiments on Six Steamers, and conclusions drawn therefrom in regard to the efficiency of Marine Engines and Boilers. (*Proceedings Inst. Mech. Engineers*, 1894, p. 33.)
4. Experiments on a Compound Engine at Hampton Station of Southwark and Vauxhall Waterworks Co. (*Ibid.* 1894, p. 572.)
5. Our Present Knowledge of the Mechanical Testing of Iron and Steel. (*Science Progress*, Nov. 1895.)
6. Strength of Timber, and how to Test it. (*Builder*, June 2.)

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7. Experiments on Two Triple-expansion Engines at Lea Bridge Pumping-Station of East London Waterworks. (*Proceedings Inst. Mech. Engineers*, 1894, p. 552.)

Prof. T. HUDSON BEARE, M.Inst.C.E., and B. DONKIN, M.Inst.C.E.

8. Experiments on a Locomotive Engine. (*Proceedings Inst. Mech. Engineers*, 1896, p. 466.)

FACULTY OF ARTS AND LAWS.

I. GREEK.

The late Prof. A. GOODWIN, M.A.

1. Hymni Homerici codicibus denuo collatis recensuit A. Goodwin, Oxonii, 1893. (Completed after Prof. Goodwin's death by T. W. Allen, M.A., Fellow of the College.)

Prof. J. A. PLATT, M.A.

2. The Iliad of Homer, edited by Arthur Platt, M.A. Cambridge, at the University Press, 1894.
3. Duals in Homer. (*Journal of Philology*, No. 46.)
4. Homerica. (*Ibid.*)
5. Homer's Similes. (*Journal of Philology*, No. 47.)
6. The Slaying of the Suitors. (*Ibid.*)
7. On a Virgilian Idiom. (*Ibid.*)
8. Notes on Empedocles. (*Journal of Philology*, vol. xxiv.)
9. Notes on Solon. (*Ibid.*)
10. Notes on Aristotle's Politics, Book I. (*Journal of Philology*, xxv.)
11. Orphica. I. (*Ibid.* vol. xxvi.)
12. A Homeric Idiom defended. (*Ibid.*)
13. Notes on Reichel's 'Homerische Waffen.' (*Classical Review*, vol. x.)
14. Miscellanea. (*Ibid.*)
15. Agamemnonea. (*Classical Review*, vol. xi.)
16. On the fourth thesis of the Homeric Hexameter. (*Ibid.*)
17. On Homeric Genitives. (*Ibid.*)
18. On Bacchylides. (*Classical Review*, vol. xii. pp. 58-64, 133-4, 211-16.)
19. Orphica II.-IV. (*Journal of Philology*, vol. xxvi.)
20. Emendations of Quintus Smyrnaeus. (*Ibid.* vol. xxvii.)
21. Sophoclea. (*Classical Review*, April 1899.)
22. Notes on the Odyssey. (*Ibid.* November 1899.)
23. On the Oxyrhynchus Papyri, vol. ii. (*Ibid.* December 1899, February 1900.)
24. Three Conjectures on the Clouds of Aristophanes. (*Ibid.* December 1899.)

II. LATIN.

Prof. A. E. HOUSMAN, M.A.

1. P. Ovidii Nasonis Ibis. (Edited in *Corpus Poetarum Latinorum*, London, 1894.)
2. The Oedipus Coloneus of Sophocles. (*American Journal of Philology*, No. 50.)
3. The manuscripts of Propertius. (*Journal of Philology*, Nos. 41, 42, and 43.)
4. On Ovid's Heroides. (*Classical Review*, vol. xi. pp. 102-6, 200-4, 238-42, 286-90, 425-31.)
5. Lucretiana. (*Journal of Philology*, vol. xxv.)
6. Emendations in the first book of Manilius. (*Ibid.* vol. xxvi.)
7. On Bacchylides. (*Athenæum*, 25th Dec. 1897, 15th Jan. 1898; *Classical Review*, vol. xii. pp. 68-74, 134-40, 216-8.)
8. On a new fragment of Juvenal. (*Classical Review*, vol. xiii. p. 266.)
9. On Juvenal I. 132-146. (*Ibid.* pp. 432-4.)

10. On the Aratea of Germanicus. (*Ibid.* vol. xiv. pp. 26-39.)
11. On Virgil Buc. IV. 24. (*Ibid.* pp. 257-9.)
12. Emendations in the Fifth Book of Manilius. (*Journal of Philology*, xxvii. pp. 162-5.)
13. On Two Epigrams of Martial. (*Classical Review*, xv. pp. 154-5.)
14. On the New Fragment of Juvenal. (*Ibid.* pp. 263-6.)

III. COMPARATIVE PHILOLOGY.

Prof. J. P. POSTGATE, Litt.D.

1. Sexti Properti Carmina recognovit J. P. Postgate. Londini et Cantabrigiæ, 1894.
2. Corpus Poetarum Latinorum, a se aliisque denuo recognitorum, edidit J. P. Postgate. Fasc. i. & ii. London, 1893 & 1894.
3. A Propertian use of *unus*. (*Journal of Philology*, No. 41.)
4. Emendations of Catullus lxiii. 54 and lxv. 402. (*Ibid.* No. 42.)
5. On Book xv. of Ovid's Metamorphoses. (*Ibid.* No. 43.)
6. Annotations on Valerius Flaccus. (*Ibid.* No. 44.)
7. A Supplement to the Apparatus Criticus of Claudian. (*Ibid.* No. 46.)
8. Lucretiana. (*Ibid.* No. 47.)
9. On certain MSS. of Propertius. (*Transactions of Cambridge Philological Society*, vol. iv. part 1.)
10. Suggestions in Propertius. (*Proceedings of Cambridge Philological Society for 1892*.)
11. Emendation of Propertius ii. 32, 35. (*Ibid.*)
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13. Notes on Propertius iii. 12, 30, and 34. (*Ibid.*)
14. On some Latin Papyrus Fragments. (*Ibid.*)
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16. On the Pronunciation of the Greek Ζ. (*Ibid.*)
17. On the Reading and Interpretation of Ovid Fast. vi. 261 sqq. (*Ibid.*)
18. On the Latin future in *-tūrum*. (*Indogermanische Forschungen*, iv.)
19. Emendations of Phædrus. (*Cambridge University Reporter*, June 1896.)
20. On the alleged Confusion of Nymph-names, with especial reference to Propertius i. 20 and ii. 32, 40. (*American Journal of Philology*, No. 69.)
21. Lucan's Pharsalia, Bk. VII., with commentary and introduction. (1896.)
22. Silua Maniliana. (1897.)
23. Tibulliana. (*Journal of Philology*, vol. xxv.)
24. Siluæ Manilianæ appendix. (*Ibid.*)
25. On Cicero pro Cluentio §§ 115, 116. (*Journal of Philology*, vol. xxvi.)
26. Notes on Xenophon. (*Classical Review*, vol. xi.)
27. Propertiana. (*Ibid.*)
28. The Science of Meaning: Inaugural Address at University College, London, October 1896. (*Fortnightly Review*, Sept. 1897.)
29. Tibulliana. (*Journal of Philology*, vol. xxvi.)
30. Some Notes on the text of Lucan. (*Ibid.*)
31. *Operatus* and *Operari*. (*Ibid.*)
32. Critical Notes on Valerius Flaccus. (*Journal of Philology*, vol. xxvii.)
33. On the new fragments of Juvenal. (*Classical Review*, vol. xiii. pp. 206 sq., 267, 401.)
34. Critical Notes on Catullus. (*Ibid.* pp. 294 sqq.)
35. On the Veronese Codex of Catullus. (*Ibid.* p. 438.)
36. On the Oxyrhynchus Papyri, vol. ii. (*Ibid.* p. 439.)

37. Notes:—Correction of *de Sublimitate* xxiv. i. (*Ibid.* p. 76). Emendation of Manilius V. 372 (*Ibid.* p. 402).
38. Two Corrections of Latin Poets. (*Classical Review*, vol. xiv. p. 125.)
39. On two Epigrams of the Greek Anthology. (*Ibid.* p. 153.)
40. Notes:—On Manilius V. 555 sq. and 133 (*Ibid.* p. 63). On Catullus lxiv. (*Ibid.* vol. xv. p. 128).
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IV. ARCHÆOLOGY.

Prof. ERNEST GARDNER, M.A.

1. A Handbook of Greek Sculpture, Part II. (*Macmillan & Co.*, 1897.)
2. Catalogue of the Greek Vases in the Fitzwilliam Museum, Cambridge. (*University Press, Cambridge*, 1897.)
3. In the *Journal of Hellenic Studies*:
For 1897. Caeneus and the Centaurs, a Vase at Harrow.
For 1898. A head in the possession of Philip Nelson, Esq.
For 1899. A head of Athena, formerly in the Disney Collection.
For 1901. The Greek House.
4. The editing and preparation for publication of Middleton's drawings of Athenian Buildings; Special Paper published by the Society for the promotion of Hellenic Studies, 1900.
5. In the *American Journal of Archaeology* for 1899:—A Vase representing the Madness of Athamas.
6. The Chapter on *Historic Greece* in the volume 'Authority and Archæology,' edited by D. G. Hogarth. 1899.
7. Articles on Greek Sites in the Supplement to *Encyclopedia Britannica* (9th edition).

V. ENGLISH.

Prof. W. P. KER, M.A.

1. Epic and Romance: Essays in Medieval Literature. (*Macmillan & Co.*, 1897.)
 2. Notes on *Orendel* and other stories. (*Folklore*, 1898.)
 3. Historical Notes on the Similes of Dante. (*The Modern Quarterly*, 1898.)
 4. Analogies between English and Spanish Verse (*Arte Mayor*) in *Transactions of the Philological Society*, 1899.
 5. Essays of Dryden, edited with an Introduction and Notes. 2 volumes. (*Oxford*, 1900.)
 6. Boccaccio. The Tylorian Lecture for 1899; published in the volume 'Studies in European Literature, being the Tylorian Lectures 1889-1899.' Oxford, 1900.
 7. Froissart. Introduction to Lord Berners's Translation of Froissart's Chronicles; in the 'Tudor Translations,' edited by W. E. Henley. London, 1901.
 8. Panurge's English; in 'An English Miscellany.' Oxford, 1901.
 9. Imagination and Judgment, in the *International Journal of Ethics*. Philadelphia, 1901
- ISRAEL GOLLANCZ, M.A. (Quain Student, 1891).
10. The Exeter Book (Anglo-Saxon Poetry), edited for the Early English Text Society.
- T. GREGORY FOSTER, B.A., Ph.D. (Quain Student, 1894.)
11. Judith. Studies in Metre, Language, and Style, with a view to determining the date of the Old English Fragment, and the home of its author. (*Quellen und Forschungen*, 71.)

12. The Whitehall Shakespeare : The Tragedies, edited by T. Gregory Foster, 1897, 1898.
13. Articles, Notes, and Reviews on Middle English Texts, etc. (*The Modern Language Quarterly*, 1897.)
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15. The same. Vols. v.-viii. The Histories and Poems, edited by T. Gregory Foster, 1895-1896.
16. Milton's "L'Allegro" and "Il Penseroso": Introduction by T. Gregory Foster. (*J. M. Dent & Co.*, 1895.)

Miss KATE WARREN.

17. Spenser's Faerie Queene, Books i.-iii. Edited by Kate Warren. (*Constable & Co.*, 1897-8.)

ANNA L. LITTLEBOY. (*Quain Prize Essay*, 1895.)

18. The Relations of French and English Literature in the 16th and 17th Centuries.

CAROLINE F. E. SPURGEON. (*Quain Prize Essay*, 1898.)

19. The Works of Dr. Samuel Johnson.

R. W. CHAMBERS, B.A. (*Quain Student*, 1899).

20. Froissart: the text of Lord Berners's translation revised for the new edition in the series of 'Tudor Translations.' Volumes i. and ii.

EDITH J. MORLEY. (*Quain Prize Essay*, 1901.)

21. The Works of Sir Philip Sidney.

VI. PHILOSOPHY OF MIND AND LOGIC.

Prof. J. SULLY, M.A., LL.D.

1. Studies of Childhood. 1895.
2. Philosophy and Modern Culture. (*Fortnightly Review*, January 1900)
3. Prolegomena to a Theory of Laughter. (*Philosophical Review*, July 1900.)
4. Child-study and Education. (*The International Monthly*, March 1901.)
5. The Psychology of Tickling. (*IV^{me} Congrès International de Psychologie, Compte-rendu, &c.*) Paris, 1901.

W. B. NEATEY.

6. The Existential Import of Propositions. (*Mind*, 1897.)

VII. CONSTITUTIONAL LAW AND HISTORY.

Prof. A. T. CARTER.

1. A History of English Law. London, 1899.

Prof. W. JETHRO BROWN.

2. The Australian Commonwealth Bill. (*The Law Quarterly Review*, 1900.)

VIII. POLITICAL ECONOMY.

Prof. H. S. FOXWELL, M.A.

1. Mr. Goschen's Currency Proposals. (*Economic Journal*, March 1892.)
Five other papers dealing with International Monetary questions : and eight Reviews.
2. Introduction and Bibliography to Dr. Menger's 'Right to the Produce of Labour.' London, 1899.

Mr. HENRY HIGGS, LL.B.

3. Richard Cantillon (*Economic Journal*, 1891): and other papers on the same subject in the *Economic Journal* and the *Boston Journal of Economics*.
4. Métyage in Western France. (*Economic Journal*, 1894.)
5. The Report on Irish Financial Relations. (*Economic Journal*, 1896.)
6. The Physiocrats. Six Lectures. 1897.
7. Some Remarks on Consumption. (*Economic Journal* 1899.) [Presidential Address to Section F, British Association.]
8. 22 Reviews and numerous minor Contributions to the *Economic Journal*, of which he is Joint Editor with the Oxford Professor of Political Economy.
9. Workmen's Budgets. (*Journ. R. S. S.*, June 1893.)

Miss ADA HEATHER BIGG.

10. The Wife's Contribution to Family Income. (*Economic Journal*, 1894.)

Miss CLARA COLLET.

11. Women's Work in Leeds. (*Economic Journal*, 1891.)
12. The Expenditure of Middle-Class Working Women. (*Economic Journal*, 1898.)
(Besides important Departmental Reports on Women's Wages.)
13. The Collection and Utilisation of Official Statistics of the Industrial Employment of Women. (*Journ. R. S. S.*, June 1898.)

Mr. A. M. OGILVIE.

14. The Rise of the English Post Office. (*Economic Journal*, 1893.)

JUICHI SOYEDA (Japanese Correspondent of the *British Economic Association*).

15. Eight papers on Japanese Economics, 1893-1901. (*Economic Journal*.)

Miss C. A. FOLEY (Mrs. RHYS DAVIDS).

16. Fashion. (*Economic Journal*, 1893.)
17. Mr. Law's Report on Russian Agriculture. (*Economic Journal*, 1893.)
18. The Employment of Women. (*Economic Journal*, 1894.)
19. Economic Conditions in Ancient India. (*Economic Journal*, 1901.)
Besides 15 Translations and 4 Reviews.

Miss M. E. TANNER.

20. Translation of Dr. Menger's book, 'The Right to the Whole Produce of Labour.' 1899.

C. H. DENYER.

21. The Consumption of Tea and other Staple Drinks. (*Economic Journal*, 1893.)
22. Recent Progress in the Housing of the Poor. (*Economic Journal*, 1897.)
And several Reviews in the *Economic Journal*.

A. L. BOWLEY (Newmarch Lecturer).

23. Two papers on a Comparison of the Changes in Wages in France, the United States, and the United Kingdom, from 1840-1891. (*Economic Journal*, 1895 & 1898.)
24. Eight papers on Wages Statistics. (*Journ. R. S. S.*, 1898-1901.) And other papers.

Mr. E. C. ROBINSON, M.A., LL.B.

25. A Text-Book of Political Economy. 1901.

Mr. RHYS DAVIDS.

26. "Notes on Early Economic Conditions in Northern India." (*Journal of the Royal Asiatic Society*, Oct. 1901.)

During the years 1890-91, the "Economic Club" was founded by two pupils of Professor Foxwell—Mr. Higgs and Miss Collet. It meets at University College once a month, and numbers over 50 members, including most of the best known economists within reach of London, among them the Professors at Oxford and Cambridge.

The Club published in 1896 a volume of *Family Budgets* similar to those of Le Play and the French Le Play Societies. Among other papers read at the Club are two by Messrs. Hughes and Johnston :—

1. The English Currency under Edward I. (*Economic Journal*, 1895.)
2. The Debasement of the Coinage under Edward III. (*Economic Journal*, 1897.)

Prof. F. C. MONTAGUE has published numerous Economic Papers and 40 Economic Reviews in the *Economic Journal*.

IX. JURISPRUDENCE.

J. W. SALMON, M.A., LL.B., Fellow of the College.

1. Elements of Jurisprudence. (*Stevens & Haynes*, 1893.)

X. GERMAN.

Prof. R. PRIEBSCH.

1. *Vrôn Botschaft*. Graz, 1895.
2. *Deutsche Handschriften in England* (*Cambridge, Oxford, etc.*). Erlangen, 1896.
3. On a fragment of the *Parcival*. (*Bulletin of the Liverpool Museums*, 1898.)
4. The chief sources of some Anglo-Saxon Homilies. (*Otia Merseiana*, 1899.)
5. John Audelay's Poem on the Observance of Sunday and its Source; in 'An English Miscellany.' Oxford, 1901.
6. *Zum Lebensende Luthers*. (*Christliche Welt*, Feb. 1901.)
7. *Deutsche Handschriften in England* (*British Museum and Guildhall Library*). Vol. 2. Erlangen, 1901.

XI. ITALIAN.

The Rev. E. MOORE, Barlow Lecturer.

1. *Studies in Dante*. Second Series. Oxford, 1899.
2. *Gli Accenni al Tempo nella Divina Commedia*, versione italiana di Cino Chiarini. Firenze, 1900.
An Italian translation of Dr. Moore's 'Time References in Dante,' revised and corrected by the author.
3. *L'Autenticità delle Quaestio de Aqua et Terra*. (*Bibl. Storico-Critica della Letteratura Italiana*, Bologna, 1899—so dated, but really 1901.)

XII. HINDUSTANI.

Prof. J. F. BLUMHARDT.

1. Catalogue of the Hindi, Punjabi, and Hindustani Manuscripts in the Library of the British Museum. London, 1899.
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XIII. PALI AND BUDDHIST LITERATURE.

Prof. T. W. RHYS DAVIDS, LL.D., Ph.D.

1. Buddhist Schools of Thought. (*Journal of the Royal Asiatic Society* for 1892.)
2. Questions of King Milinda, translated (for the first time) from the original Pali. Oxford, University Press, 1894.
3. Buddhism, its History and Literature: being a course of lectures delivered at the Lowell Institute and elsewhere in America. London and New York, 1896.
4. Yogāvacara, a Manual of Indian Mysticism as practised by Buddhists.
5. Dialogues of the Buddha. Published by the Oxford University Press, 1899. Vol. I.
[The first translation in any European language of the whole of the dialogues of the Buddha.]
6. Theory of Soul in the Upanishads. An article published in the *Journal of the Royal Asiatic Society*, 1899, pp. 71-87.

XIV. SANSKRIT.

Prof. C. BENDALL, M.A.

1. Catalogue of Sanskrit, Pali, and Prakrit Books in the British Museum, 1876-92. London, 1893 and 1894.
2. Articles in the *Journal of the Royal Asiatic Society* and other Journals.

Miss C. MARY RIDDING.

3. A MS. of the Nārada Smṛiti. (*Journal of the Royal Asiatic Society* for 1893.)

Prof. C. BENDALL, M.A.

4. Çikshāsamuccaya. (*Bibliotheca Buddhica*, no. 1, *Academia Scientiarum Imperialis, Petersburg*.)
5. Çikshāsamuccaya. Fasciculus 2. A Buddhist Sanskrit Text, edited from Sanskrit MSS. with comparison of the Tibetan version, for the [Russian] Académie Impériale des Sciences. St. Petersburg, 1898. (Fasc. 1 appeared in 1897.)
6. For original work in Travel and Archæology, see *Cambridge Univ. Reporter*, 5th Dec. 1899, and *Journal R. Asiatic Soc.* for Jan. 1900, pp. 162-4.

XV. PERSIAN.

Prof. E. DENISON ROSS, Ph.D.

1. Al Muzaffariyé. (*Journal of the Royal Asiatic Society*, 1898.)
2. The Heart of Asia (with Mr. F. H. Skrine). London, 1899.
3. Persian Poetry. (*North American Review*, June 1900.)
4. Life and Times of Omar Khayyam; being the Introduction to Messrs. Methuen's edition of FitzGerald's Translation. 1901.
5. The Religion of the Bab. (*North American Review*, April 1901.)

XVI. EGYPTOLOGY

Professor W. M. F. PETRIE.

1. Illahun Kahun and Gurob. 59 pp.; 33 plates. 1891.
2. Tell el Hesi. 62 pp. 1891.
3. Medum. 53 pp.; 36 plates. 1892.
4. Ten Years' Digging. 195 pp. 1892.
5. Tell el Amarna. 46 pp.; 42 plates. 1894.
6. Koptos. 38 pp. 28 plates. 1896.
7. Students' History of Egypt. Vols. I. & II. 1894.
8. Translations of Egyptian Tales. Vols. I. & II. 1895.
9. Decorative Art in Egypt. 128 pp. 1895.
10. Nagada and Ballas. 79 pp.; 86 plates. 1896.
11. Six Temples at Thebes. 33 pp.; 26 plates. 1897.
12. Deshasheh. 52 pp.; 37 plates. 1898.
13. Religion and Conscience in Egypt. 179 pp. 1898.
14. Syria and Egypt. 187 pp. 1898.
15. Denderah. 74 pp.; 78 plates. 1900.
16. Royal Tombs, i. 51 pp.; 49 plates. 1900.
17. Diospolis Parva. 62 pp.; 49 plates. 1901.
18. Royal Tombs, ii. 50 pp.; 98 plates. 1901.
19. Hierakoupolis, i. 12 pp. text for plates. 1900.
20. Progress of Archæology in XIXth century (*New York Sun.*) 1901.
21. Egyptology. (Supplement to *Encyclopædia Britannica.*) 1901.
22. Rise and Development of Egyptian Art. (*Society of Arts.*) 1901.
23. Sources and Growth of Architecture in Egypt. (*R. Inst. Brit. Architects.*) 1901.

